

Knitted Outerwear Times



the official publication of the
national knitted outerwear association
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Vol. 29

MONDAY, OCTOBER 17, 1960

No. 42

AATCC Convention

Parley Talks Focused On Latest Developments In Dyeing Synthetics

PHILADELPHIA, Pa.—Latest developments in the dyeing and finishing of synthetic and natural fibers were described at a three-day convention of the American Association of Textile Chemists and Colorists, which returned home on October 8. The Piedmont Section of the AATCC took first honors in the intersectional technical paper contest for a presentation relating to chlorine damage to resin-treated wash-wear fabrics. The Delaware Valley Section, placed second; the Rhode Island Section, third.

The Olney Medal was awarded to Arnold M. Sookne, of Harris Research Laboratories, who told the group that for some wash-wear treatments, the introduction of intermolecular crosslinks is largely responsible for the improved useful properties.

H. C. Haller, of American Cyanamid Co. explained the use of a set of 115 engineering charts with which a fabric engineer could predict the maximum number of ends and picks per inch that can be woven with a given yarn blend.

Dr. C. Eugene Coke, Hartford Fibres Co., in describing Zantrel polynosic staple fiber, said important characteristics were that it was stable, and relatively free of progressive shrinkage.

Zantrel can be dyed to any shade. It has a pleasing luster and fabrics made of Zantrel have a "crisp, lofty, silk-like" hand.

Fred Fortess, of Celanese Fibers Corp., described the Monforts Reactor continuous dyeing machine. He said the

significance of this machine is that it can apply concentrated thermal energy under conditions of controlled tension and uniform heat distribution across the width of the fabric.

L. R. Graybeal, of American Enka Corp., said the use of Enka Fiber 500 in knit goods, such as men's T-shirts is being studied.

I. H. Welch, of American Viscose discussed Avron, Avril and Avlin rayons. Avron, he said, is the strongest. Avlin is similar to regular rayon, but requires resin treatment for dimensional stability.

Corval and Topel, both cross linked rayon staples and Moynel, a high wet modulus, were discussed by R. S. Kenyon, of Courtaulds (Alabama) Inc. He said that work with both knit goods and woven fabrics showed that Moynel may be processed from start to finish as cotton. He said that shades obtained on regular rayon can be obtained with cross linked staples by increasing the amount of salt in the bath.

Walter Stump, of The Chemstrand Corp., discussed the dyeing of Acrilan 16 and Acrilan 16-Acrilan 16.56 blends. Among the points he made was that in tubular knit jersey,

where heathers have been extremely popular, two specific blends have contributed great versatility to the dyeing of two-tone effects from light to dark. One blend is 15 percent Acrilan 16.56-and-85 percent Acrilan 16. The other blend is the reverse percentages of these two Acrilans.

Dr. Richard Kern, of Sandoz, Ltd., described the possibility of dyeing cellulose and synthetic fibers continuously by steaming at increased pressure with saturated steam. He said that a continuous procedure can be worked easily since required steaming times are comparatively short. In spite of the fact that certain dyes give poorer yields on pressure steaming, the disadvantage is outweighed by the higher level of productivity and saving in power and labor by continuous dyeing.

Acrylic polymers used as feltproofing agents for wool compare favorably with other treatments, Fred H. Steiger, of Rohm & Haas Co., told the Association. They also avoid undesirable effects on secondary fabric properties.

R. J. Fortune, of The Tennessee Eastman Co., division of Eastman Kodak Co. said that a reduction in dyeing temperature has removed many of the problems that have been associated with Verel.

Fortune said that piece goods made with Verel modacrylic fiber, such as knit goods, drapery and other apparel fabrics, can now be successfully wet processed, free of creases and distortion, and will retain or develop desired fabric texture.

AATT

Fiber Technology Theme Of Annual Meeting Feb. 8

"The Challenge of Modern Fiber Technology" will be the theme of the annual meeting of the American Association for Textile Technology at the Hotel Commodore, February 8. This will be the first annual meeting of the organization under its new constitution, which provides for the operation of chapters and an expanded program of activities.

Dr. Kurt J. Winter, vice president of AATT and chairman of the technical council, said the Council chose this theme because of the increasing number of new fibers and fiber modifications. He said the industry has new responsibilities for the proper use and processing and the promotion of these fibers.

Conference Objectives

The conference objectives are to help eliminate confusion in the increasingly complex fiber technology, and to clarify the responsibilities of all members of the industry.

The meeting will feature four panels, retailing, fabrication of end products (apparel, industrial, home furnishings), converting and mill operations.

Albert E. Johnson, a director of the Association and director of trade relations of the National Institute of Drycleaning, has been named general chairman of the meeting. The administrative chairman will be Erb Ditton, a former president of AATT and a textile consultant.

SPECIAL ISSUE: Annual Wool & Specialty Fibers Review



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Knitted Outerwear Times

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FEATURES IN THIS ISSUE

Wool Use Up in Knitwear Industry ..	3
Recent Trends in U. S. Apparel Grade Wool Use	5
Government Laboratory Improving Wool's Properties ..	7
Cashmere Supply, Price Trends	9
Analysis of Fur and Hair Fiber Trends ...	9
Processing of Wool on Woolen System	10
Wool Spinning on American System	13
Men's Wool Sweater Styles	17
Woolknit Fashions	19
New Electronic Knitting Machine	21
Swimwear	31-41

Wool Developments

Use Of Fiber By Knitters Shows Big Gain

By CHARLES REICHMAN, Editor

WOOL appears to be staging a strong comeback in knitwear. Not since wool went into eclipse as a major knitted outerwear raw material under competitive pressure from Orlon and other synthetic fibers, has interest in and demand for this natural protein fiber been as great as this season. This is the conclusion drawn from a recently-completed poll of yarn spinners servicing the sweater and knitted yardgoods sections of the industry.

The survey was conducted via a written questionnaire sent to upwards of 100 yarn processors and knitting yarn sales agents in various parts of the country. Responses were received from well over 50 percent of those to whom the questionnaires had been mailed. Among the yarn producers who filled out the questionnaires were most of the industry's volume yarn suppliers.

Report Rise

Over four-fifths of the spinners responding indicated that their sales of all-wool and wool-content yarns to outerwear and fabric knitters tally higher so far this fall and winter season than the entire comparable season last year. The average gain in wool knitting yarn sales is tabulated at 22 percent. A minority of the spinners reported minute increases of two to five percent. More than half noted that their wool knitting yarn volume jumped by 30 percent or more. Five yarn suppliers racked up increases of 50 percent and one estimated that his wool yarn sales exceeded last year's by close to 100 percent.

The stepped-up commitments for wool yarns, the survey shows, is primarily a reflection of increased consumer demand for wool knitted dresses as well as wool sweaters. The new, burgeoning double knit dress vogue, the spinners believe, is more of a factor behind the increased orders for wool yarns than a wool rebound in sweaters. Yarns for the double knit garments, it was indicated, are being sold not only to integrated knitted dress producers but also to many yardgoods manufacturers. Many of the latter, as knitters of worsted jersey cloth, have always been large wool yarn users but a larger number of the knit cloth makers are relatively new wool consumers, having special-

ized up to now either in knit cloth of Orlon and wool blends or 100 percent cotton.

Men's & Boys Sweaters

After the knitted dress and double jersey yardgoods producers, the yarn spinners listed men's and boys' sweater knitters as the next important group of customers for their wool yarns. Although knitters in this product area historically have always favored wool over synthetics in their lines, the use of wool in men's and boys' sweaters is estimated today to be at an all-time high.

The increased demand for all-wool yarns is also believed by the spinners to mirror a higher degree of enthusiasm for wool among some of the top drawer ladies' sweater firms than has been the case in the past 10 years. While the movement back to wool is not as pronounced in the women's sweater field as in the men's and boys' category, the amount of wool yarn now being channeled into ladies' sweaters is believed to be greater than in the previous decade.

Infants' and children's sweater knitters apparently are showing the least interest in wool. The poll of yarn spinners records only a minor percentage of wool yarns going into the pint-size knit garments. For these knits synthetics are still overwhelmingly preferred.

Wool Grades

In reporting on the wool grades specified by knitters in their wool yarn orders, the yarn processors indicated that sweater knitters appear to be favoring mostly quarter-blood wools, although they are also buying some three-eighths and zephyr grade wools. Manufacturers of knitted dresses and double jersey yardgoods, on the other hand, are plunking down orders mostly for zephyr yarns which require raw wool grades of 64s and finer.

Information was also obtained by means of the survey on the specific yarn sizes wanted by the knitters in their purchases of wool knitting yarn. The yarn-size responses show that sweater knitters are ordering wool yarns in the 2/15 w.c., 2/20 w.c., 2/26 w.c. and 2/30 w.c. yarn sizes.

Yarn sizes specified by knitted dress manufacturers as well as manufacturers of double jersey yardgoods are divided between single and two-ply yarns in the finer counts. The sizes specified in the singles bracket include 1/26 w.c., 1/32 w.c., 1/36 w.c. and 1/38 w.c.; in two-ply yarns, the orders extend from 2/30 w.c. at the coarse end of the size scale to 2/64 w.c. in the finer count range.

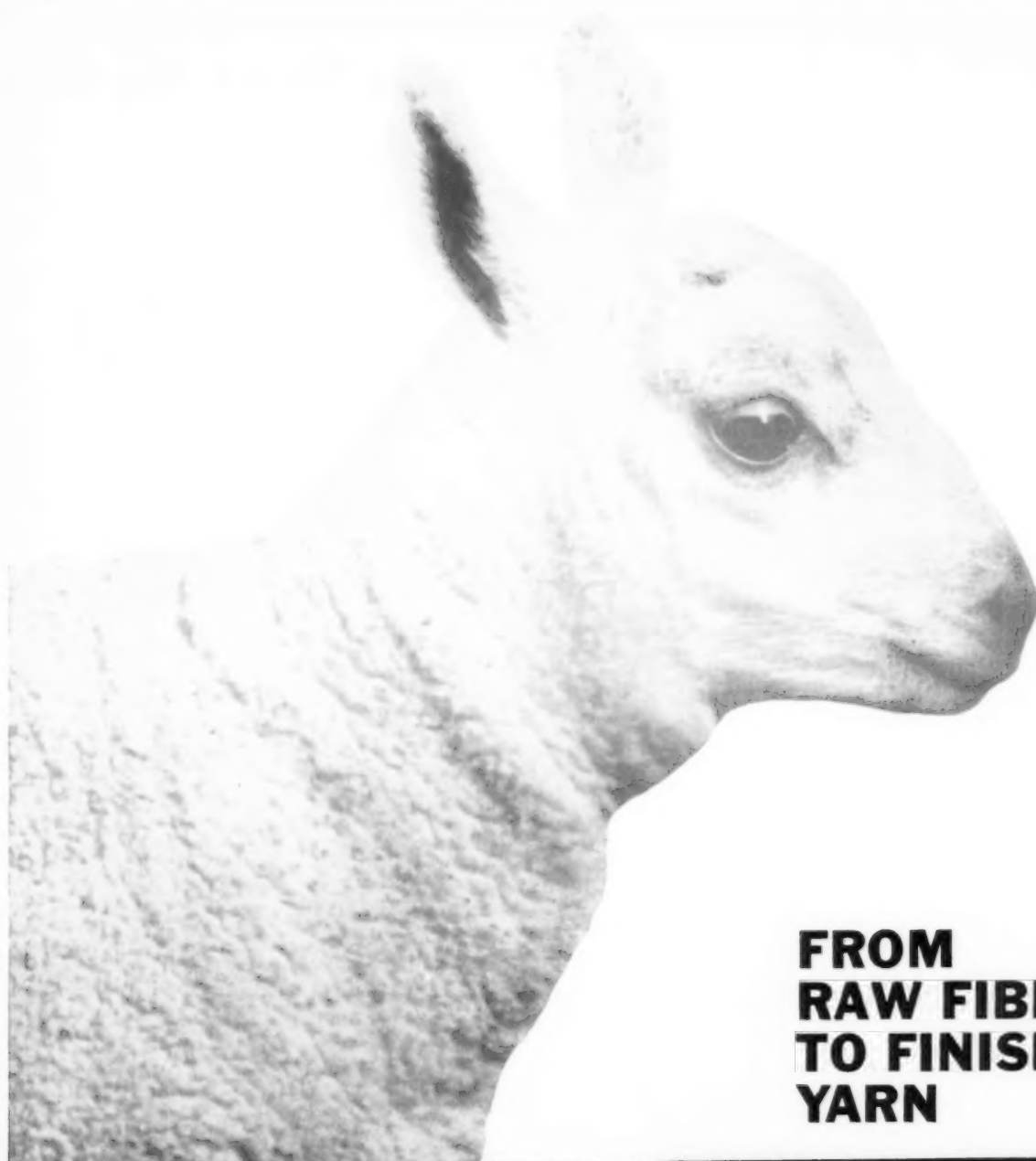
Upgrading Wool

The increased attention being given to wool in knitted outerwear has prompted many of the knitters to demonstrate renewed interest in treatments for controlling felting shrinkage of wool and processes for protecting wool knitted garments against moth attack and inhibiting their pilling.

In the area of wool shrinkage control, sweater and yardgoods knitters have their choice of a larger number of treatments than have been available up to now. Included among these are Dylan, which has been on the market for a number of years and which was formerly marketed under the Sanforlan trade mark, as well as such newer processes as the Chloregeal D process of Geigy Dyestuffs and the Melafix treatment of the Ciba Co. All three are chlorination treatments which can be applied to the wool in the form of raw stock, top, yarn, knitted fabric or completed garments.

In addition to these chlorination processes, manufacturers of wool sweaters and knitted yardgoods may also want to explore the possibilities of some of the new resin processes that have come on the market. Although in the past none of the resin-

(Continued on Page 5)



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type treatments for wool have proved as practical or successful as the chlorination procedures, high hopes are held out for some of the newer processes for padding insoluble resins on to the wool.

Among the promising methods is one developed by the U.S. Department of Agriculture at its Wool and Mohair Laboratory in Albany, California. This treatment involves the deposit on wool fabric of an epoxy-polyamide resin finish. Another interesting resin-type treatment, perfected at the wool research laboratories in Australia involves the use of a similar chemical—N-substituted nylon derivatives.

The wool shrinkage control research in Australia is also proceeding in the area of chemical treatments, utilizing an oxidizing agent such as potassium permanganate.

Of the two basic types of shrinkage control processes available—wet chlorination and resin—the former appears to

have the greater advantage, at least for manufacturers of wool knitwear. The chief benefit of wet chlorination is that the treatment is relatively simple to apply; usually chlorination processes are carried out as a stage in the dyeing of the wool in either top, yarn, strip or garment form.

Not to be overlooked, however, is the fact that some weight loss occurs in chlorination shrinkage control; some methods produce a weight loss of as high as five percent. Resin treatments, on the other hand, result in an increase in fabric weight proportionate to the amount of the resin agent that is deposited on the wool fabric. However, to date none of the resin treatments have proved as feasible as the chlorination methods for knitted outerwear, despite the shortcomings of the chlorination treatment and its limited commercial acceptance by outerwear knitters generally.

Work on controlling the pilling of wool is not quite as ad-

vanced as research on methods for reducing the felting shrinkage of wool. However, a survey of technical literature occasionally discloses that effort is continually being expended on chemical or physical treatments for controlling, if not wholly eliminating, pilling of wool knitted garments. While the problem of pilling is not as troublesome in wool knits as in knitted apparel made of spun synthetic fibers, in certain types of loosely knit sweaters pilling has been found to be objectionable.

Outcome of Other Work

Most of the research undertaken for the control of pilling in wool knitwear has centered in the laboratories of the British Wool Research Association in England and the Textile Industry Wool Research Laboratories in Geelong, Australia. Earlier this year Mr. Lipson, a scientist on the staff of the Australian organization told the 30th anniversary meeting of the Textile Research Institute of progress made by his outfit in devel-

oping a chemical process for retarding pilling in wool knitwear. Mr. Lipson reported that many of the chemical wool shrinkage control processes result in a considerable reduction of pilling in knitwear. This effect, he indicated, first became apparent in the course of studying alcoholic alkali as a felting shrinkage inhibitor for wool. Subsequently, it was observed that many other types of shrinkage control processes utilizing other chemical agents produced the same results. The control or elimination of pilling, he said, was no doubt a direct outcome of the reduction in fiber migration that results from chemically treating wool for shrinkage resistance.

Studies at the Australian laboratories disclosed that the best results were accomplished with a permanganate-salt treatment used for curbing the felting of wool. By after treating the wool with polythene, even better results were obtained.

Wool Statistical Review

Recent Trends In Consumption Of U.S. Apparel Grade Wool

By RUTH JACKENDOFF

Director, Department of Economics and Statistics,
The Wool Bureau, Inc.

MILL consumption of apparel wool during January-August had fallen off four percent from a year ago, reflecting a shade more weakness in the worsted system than in the woolen system. During the first half of the year, wool civilian apparel fabric production was off two percent from a year ago. The supply from domestic mills was supplemented by close to 45 million square yards of imported wool fabrics (equivalent to 29 million linear yards), representing an increase of 31 percent over the corresponding 1959 rate of imports. Italy maintained its new leadership in the import market followed, in order, by Japan and the United Kingdom. When imports are added to production, the total supply of wool apparel fabrics available during the first six months of 1960 actually exceeded that of a year ago by two percent.

Fabric imports alone do not reveal the extent to which the expanding import trade balance of semi-manufactured and manufactured wool goods during the past decade has modified the apparently severe decline in consumption of apparel wool. A recent study by the U.S. Depart-

ment of Agriculture estimated that a rise of 307 percent from 1948/49 to 1958/59 in the raw wool equivalent of our net import balance in wool manufactures modified the reported decline of 41 percent in mill consumption to 25 percent at the consumer level.

In knit apparel, which experienced a dynamic rise during the past decade, domestic consumption of raw wool declined 36 percent from 58.3 million pounds clean in the post-Korean war year of 1953 to an estimated 37.5 million pounds in 1959, the second successive year in which the consumption of wool for knit goods has been rising. According to the Department of Agriculture study, the raw wool equivalent of the import balance of wool knit manufactures increased 172 percent

during the same period. Furthermore, the net import balance increased 22 percent between the first quarters of 1959 and 1960, while domestic activity in wool knit goods was presumably off from a year ago.

A new monthly report initiated this year by the Census Bureau, includes statistics on the production of woolen and worsted knitting yarns for sale. It is encouraging to note that there was a gain of 24 percent from the first to the second quarter. Worsted system yarns accounted for 71 percent of the six-month total of wool knitting yarns produced.

Since the beginning of the year, market quotations for quarterblood and zephyr knitting yarns have weakened, revealing the slackness in demand so far, in contrast to the strength of last fall's market. The late September quotation for 2/20 worsted quarterblood yarns was \$1.95, off six percent from the peak of \$2.075 quoted during January of this year. The corresponding quotation for 2/30 worsted zephyr yarns (French

system) was \$2.475, off 10 percent from the January-February peak of \$2.74.

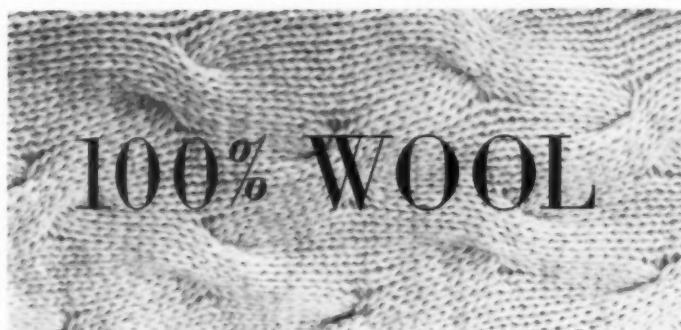
The market prices of grades of raw wool from which quarterblood and zephyr yarns are spun are normally directly reflected in the prices of the yarn, which also include processing costs. The last September price of domestic quarterblood, graded territory good French combing and staple, on the Boston market was \$1.075, a decline of four percent from the peak of \$1.115 reached in November-January, 1959-60. The corresponding decline of graded Territory fine wools, good French combing and staple was 15 percent from a peak of \$1.325 in July to the last September price of \$1.125.

Zephyr yarns require raw wool of fine grade (64s and over) which are in relatively greater supply in the domestic clip and in the clips of the major wool-supplying countries than supplies of quarterblood wools. The recent demand for quarterbloods reflects the protracted popularity of bulky sweaters.

(Continued on Page 7)



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While there is no exact measure of the total available supply of quarterblood on which U.S. yarn spinners can draw, Table I approximates the present volume of these wools in the domestic clip and in the clips of the five major wool supplying countries.

It should be noted that most U.S. marketing agencies today classify wools grading 50s to 54s as quarterblood whereas in 1946 they were designated as grades 48s to 50s. Foreign quarterblood supplies were assumed to include grades nearest the U.S. classification, but may overstate the true amounts owing to different grading standards.

The 27 million pounds of quarterbloods available in the U.S. clip during the current season would seem to be an adequate supply for domestic requirements in the light of the total weight of raw wool (37.5 million pounds) estimated to have been consumed during 1959 for the total production of wool knitting yarns. However, it should be recalled that over 70 percent of the wool knitting yarn produced for sale during the first six months of 1960

TABLE I
ESTIMATED AVAILABLE SUPPLIES OF QUARTERBLOOD WOOLS FROM DOMESTIC CLIPS AND FROM MAJOR EXPORTING COUNTRIES, 1960/1961

Source	Millions of pounds Clean Basis	Percentage Distribution
United States ((50s-54s)	27.1	13.4
British Dominions		
Australia, 50s-52s)	30.7	15.2
New Zealand		
(50s-56s)	25.9	12.8
(50s-52s)	68.6	33.9
Total New Zealand	94.5	46.7
Union of South Africa (50s-52s)	0.2	0.1
Total British Dominions	125.4	62.0
South America		
Argentina (48s-50/56s)	27.0	13.3
Uruguay		
(56s)	16.9	8.3
(50s)	6.0	3.0
Total Uruguay	22.9	11.3
Total South America	49.9	24.6
Grand total above	202.4	100.0

were spun on the worsted system, which requires relatively long staple wools. In addition, a large weight of quarterbloods

are consumed in the manufacture of woollen and worsted woven fabrics. Therefore, part of the total requirements of

quarterbloods for knitting yarns are probably imported. In 1959, imports of wools gradings 50s-56s totaled over seven million pounds, clean basis.

Domestic wool prices have been at a discount on foreign prices during most of 1960 and an excellent buy for those who needed wool at any given time. The world wool balance sheet for the season in force is such that firm to rising world prices would appear to be a more reasonable expectation than lower prices. When supplies of domestic wool run out, domestic market prices will move up to foreign levels.

In view of the hesitation in overall business activity, the textile industry should not be entirely surprised at the gradual decline in new textile orders which has developed during recent months. It had looked for a somewhat longer period of recovery from the 1957-58 recession, following and industry resolution to avoid production for inventory. The belief is frequently expressed that the textile industry is better prepared now than ever before to cope
(Continued on Page 61)

Wool Processing

Government Seeking To Improve Wool's Properties

ALBANY, Calif.—The Wool and Mohair Laboratory of the United States Department of Agriculture, here, has embarked on an expanded program of research, studying all sorts of treatments for improving wool. One method of making wool shrink resistant has already been developed by the laboratory and released through

a public service patent for royalty-free use; research in this field is continuing. In addition, government scientists have completed successful experiments to improve the manufacture of wool felts and to make permanent pleats and creases in wool fabrics through a method that is odorless. Basic studies of wool involving the entire molecular architecture of the fiber are part of the continuing program.

The Wool and Mohair Laboratory, one of seven such labs which make up the Western Utilization Research and Development Division, began its studies in 1947. With the opening last year of the Wool Processing Laboratory, researchers have been able to speed up their

work and to perfect testing techniques. The processing lab contains complete commercial equipment with which all steps involved in converting raw wool into finished fabric can be studied.

Present studies in the control of felting shrinkage involve the application of new resins and other surfacing agents including a nylon solution. Many of these give promise of being particularly adaptable for knitwear. Laboratory scientists are constantly working to perfect a shrinkage control method that will provide easy care without losing any of wool's uniquely desirable qualities. Multi-purpose treatments are also being investigated.

The shrinkage control method that has been released involves the use of an epoxy-polyamide resin. Complete directions for the formulation and application of this process may be obtained free from the Laboratory by requesting form CA 74-8.

To make pleats and creases permanent, government researchers report success with the use of dilute solutions of ethanolamine. A property of this chemical that is unlike most of those currently in use is that it leaves no objectionable odor. It has also been noted that the process not only is successful for permanent pleating and creasing but that it also makes the flat part of the fabric more wrinkle resistant.

Using a 0.5 to 2.0 percent solution of ethanolamine in water, with a very small amount of detergent to facilitate wetting, the solution can be applied either by spraying or dripping,

after which the damp fabric is steam pressed. In a typical experiment with lightweight suiting, creases were set in one minute at about 280° F. in a tailor's press. The treatment is applicable to fabrics that have been shrink-proofed by the epoxy-polyamide resin method. Fabrics that have received both treatments are washable in machines without shrinking and without loss of creases.

In research on wool felts, scientists discovered that soft wool felt treated with a hot solution of dimethyl sulfoxide becomes dense and hard within a few minutes. Relative hardness can be controlled both by the length of time the felt is left in the solution and by the temperature of the bath.

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Cashmere Trends**Sharp Price Fluctuations Big Factor Behind Reduced Use**

By GREGORY SHLOMM
President, Amicale Yarns, Inc.

THE current year is an average one for cashmere, the world's finest and most luxurious specialty fiber. Appreciated by men and women everywhere for its lightness, warmth and hand, its popularity remained steady. However, many knitting firms in the United States dropped cashmere from their manufacturing programs. Now there are only a few which continue to supply cashmere garments to the stores and, through them, to the American public.

Why are fewer organizations handling this commodity? It is my considered opinion that extreme fluctuations in the price of the raw stock are responsible. Cashmere has been subjected to the sharpest price changes ever registered; over the past two years alone, the cost of the raw material has more than doubled. No amount of persuasion has been able to convince the suppliers of the raw fiber that ever increasing prices for cashmere disrupt the market and greatly diminish business possibilities. The suppliers just do not understand American merchandising methods and turn a deaf ear to all attempts to explain conditions here. Unfortunately, the suppliers feel that they can be uncooperative because they enjoy a monopoly; because of United States government regulations, theirs is the only fiber destined for knitting purposes which can enter this country in the form of raw material.

Of course, cashmere is not a necessity. It has always been a luxury item which sells year after year to a loyal, if somewhat limited, proportion of the population. However, when the price structure is sufficiently attractive to appeal to the mass market, then the average American consumers refuse to content themselves with so-called substitutes, but insist on cashmere sweaters. If the price is right, a large volume of business can be developed in this field.

Present conditions, however, have encouraged the use of other fibers more advantageously priced. Manufacturing progress in the processing and spinning of all kinds of wool and fur blends such as angora and rabbit hair has been noteworthy. In addition to excellent styling,

sweaters made from these blends have achieved a "cashmere-like" soft, attractive hand which has an irresistible appeal to the consumer. Especially with such popular numbers as classic cardigans and pullovers, the fur blends have been enjoying signal success and easing cashmere out of this particular market. Because of the price differential, fur blends have been giving cashmere serious competition.

The cashmere industry is not standing still, but is fighting to retain its foothold with every means at its command. It is concentrating on the technical aspect, seeking to improve the quality of the product and increase the efficiency of its operations. From processor to knitter, every mill is doing its utmost to achieve the highest possible pro-

duction standards. The processor of the raw fiber has perfected cleaning and dehairing operations to such an extent that practically hairless cashmere is the result. All coarse hair is eliminated during the dehairing process so that only pure down fiber remains. Today any color can be successfully dyed on cashmere, from the whitest white and palest pastel to the darkest shade.

Yarn spinners, like my own mill, Woonsocket Spinning Co., keep abreast of the latest developments in spinning machinery and equipment. At Woonsocket, we have modernized our plant and continue to produce the finest and most even woolen spun cashmere yarns, rivalling the best that is made abroad. The cashmere knitters, armed with the best possible yarn, have been able to manufacture sweaters to meet the most exacting standards. They have gone on to exert all their ingenuity to create new styles and unusual colors to attract the buying pub-

lic to this still unsurpassed article of women's apparel. One knitter in particular has made his name synonymous with outstanding cashmere quality.

Because of these unrelenting efforts throughout the industry, will 1961 witness an increase in the sale of cashmere products? In the last analysis, the price structure will be the determining factor. Despite all his enterprise, the sweater manufacturer today is hesitant about conducting an all-out campaign to promote the sale of his product to the stores, because he is afraid that unstable cashmere prices will cause him heavy losses on his yarn commitments. Realizing this, we as one of the principal spinners of cashmere yarn, have been protecting our customers against possible price fluctuations this season by maintaining our prices to them and assuming the risks in an uncertain market. We are all doing our best to make the use of cashmere more widespread, by

(Continued on Page 63)

Wool Specialty Fibers**An Analysis Of Fur And Hair Fiber Trends**

BOSTON, Mass.—Probably the best buys in the highly volatile fur and hair market today are muskrat and adult mohair, according to John H. Forte, vice president in charge of the wool department of Forte, Dupee, Sawyer Company, reputed to be the world's largest importers and processors of specialty fibers.

Short fibered muskrat is hard to spin and does not have the exotic appeal of some of the other furs but can now be bought around \$1.50 whereas muskrat prices have ranged up to \$5 per pound.

Edward F. McManus, head of the Forte, Dupee, Sawyer's fur and angora division, said racoon is the fur going in the greatest volume to the knitting industry. It is used principally in yarn for leather faced gloves. The annual volume is estimated around 35,000 to 50,000 pounds, selling in the vicinity of \$2.35. Mink, considered to be something of a "gimmick" fiber with appeal as a romance label is valued at \$2 currently

and consumed at a rate of about 15 to 25 thousand pounds a year.

Fur fiber prices are characteristically speculative from season to season and Mr. McManus said the fluctuations of angora is a good illustration. Two years ago, offerings were relatively reasonable around \$3.50 per pound but this fiber has been known to range up to \$16, thereby pricing itself out of the market. Japan, the biggest source for angora, formerly shipped 300,000 pounds annually but now the domestic yarn business in that country absorbs three-fourths of the yearly production. Obviously, this has affected worldwide prices and angora values today are listed:

\$8.50 French; \$6.25 Japanese; \$6.50, Argentine and \$7.25 to \$7.50 for good northern European.

Forte, Dupee, Sawyer has been a factor in the fur market only for the past five years, but their headquarters at 311 Summer Street has been a mecca for specialty fibers for thirty years. The firm stocks small quantities of practically every known rare fiber with the exception of vicuna, Icelandic wool and Shetlands and for these will tap its contacts on request.

The downward trend in adult mohair has brought this fiber lower than it has been for years. Mr. Forte said that over ninety percent of the Texas clip has hitherto gone into export but with the diminishing manufacture of woven fabrics abroad, Texas adult mohair has dropped from the vicinity of \$1.11½ and

(Continued on Page 65)

Yarn Processing

Lamb's Wool, Cashmere Spun Into Yarn On Woolen System

VIRTUALLY all of the lamb's wool and cashmere yarns used in sweaters are spun into yarn on the woolen system. Woolen system yarns, unlike those spun on the various worsted system, consist of a random intermixture of relatively short and long fibers. In the processing of woolen system yarns no attempt is made to achieve any degree of fiber parallelization such as is done on the worsted systems; yarn spun on the woolen system has a fuzzy surface and a distinctly hairy appearance resulting from projecting short fibers.

Woolen system yarns generally possess moderate strength and good bulking or covering properties. In the processing, a soft twist is imparted. This contrasts with the relatively little twist used in French system yarns and the comparatively high twist imparted to Bradford-spun yarns. The pliability of woolen system yarns is good.

Steps Outlined

The woolen system is a short-cut spinning procedure. There are four fundamental operations involved: (1) picking, (2) carding, (3) spinning and (4) winding-on. If the yarn is to be produced in two-ply form, an additional operation of doubling is required.

The picking operation is primarily an opening procedure designed to prepare the stock for carding and to blend it thor-

oughly, particularly if the stock consists of varying qualities of the same fiber or of mixtures of different fibers.

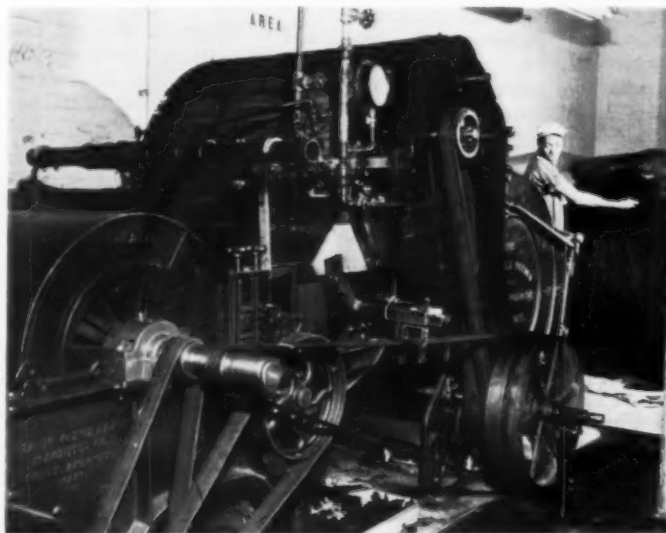
Carding is done on a three-cylinder card. The important

step in this operation is feeding. The quality of the final product is determined by the manner in which the stock is fed into the card. Carding done on the first cylinder is in the nature of a further opening operation. After the web leaves this cylinder it is fed into two finishing cylinders by means of a broad band feed. The end product resulting from the carding operation is roping

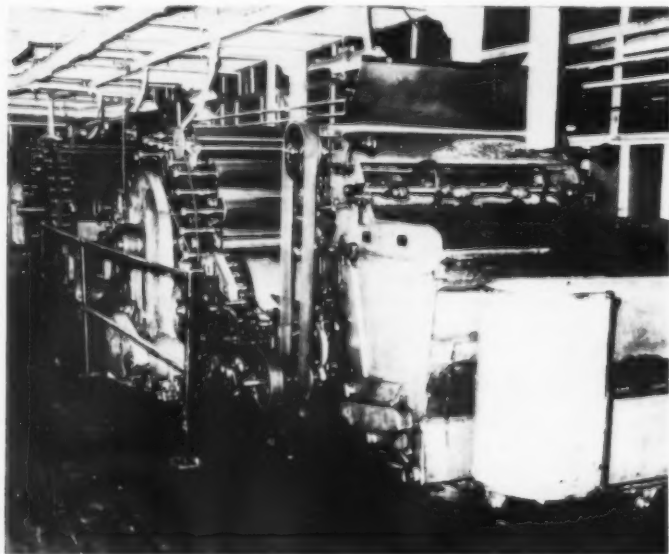
which is doffed on modern equipment by means of tape condensers and on older equipment by ring doffers.

The roping is converted into yarn on either a self-acting mule or jack or a ring spinning frame. The latter is a relatively modern innovation and in most woolen system mills is replacing the self-acting mule. The mule has a moveable carriage which drafts and spins the roping into yarn. This action is in two operations. The ring spinning frame operates in continuous fashion and is thus more economical. It has the further advantage of taking up far less floor space than a self-acting mule. Winding-on is performed on conventional winding equipment.

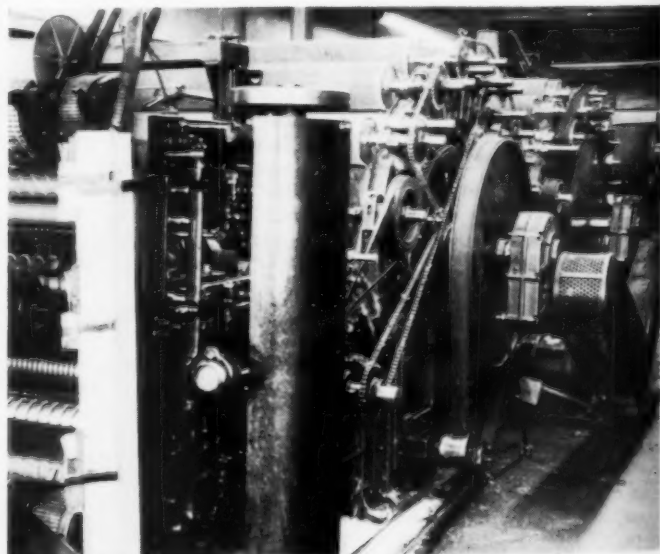
Size of woolen system yarn is expressed on either the run or cut basis. A run is equivalent to 1,600 yards to the pound, and a cut to 300 yards to the pound. Thus, a 5-run yarn measures 8,000 yards and a 2½ cut yarn 750 yards. Generally speaking, the limit to which woolen system yarn can be spun is 7 run, which is equivalent to a 20 count yarn on the worsted system.



1. First step is feeding of raw wool fiber into the picker, a processing unit which opens and blends the stock. Here the stock is being fed into the Bramwell feed of a Davis and Furber picker.



2. Feed end of card, above right, and exit end of the card, left. The stock goes to the card after thorough blending. It is fed manually into the feed box at the front end. The quantity of stock in the feed box is kept at a uniform level to assure even feeding. The stock is picked up by an apron feeder and deposited in a scale box which dumps the appropriate weight of



stock onto another feeder. Latter carries the stock into the first breaker. A doffer removes the stock from the first breaker and lays down a web which is condensed and fed through a Scotch feed into the second and third breakers. From the third breaker, the wool is doffed, again formed into a web and fed into a condenser where it is divided into multiple ends.

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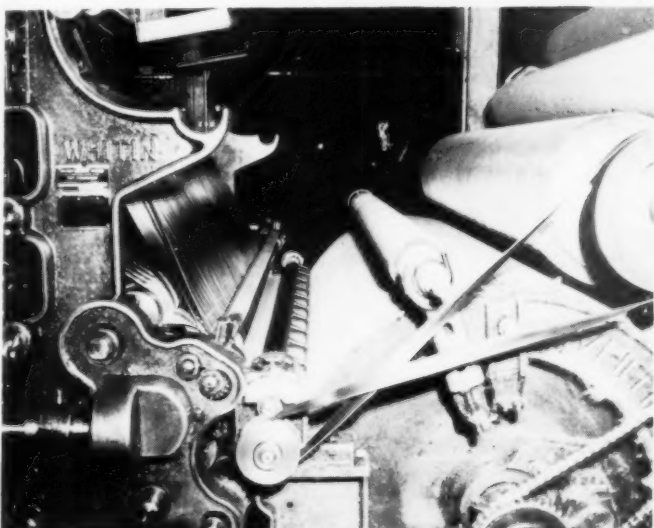
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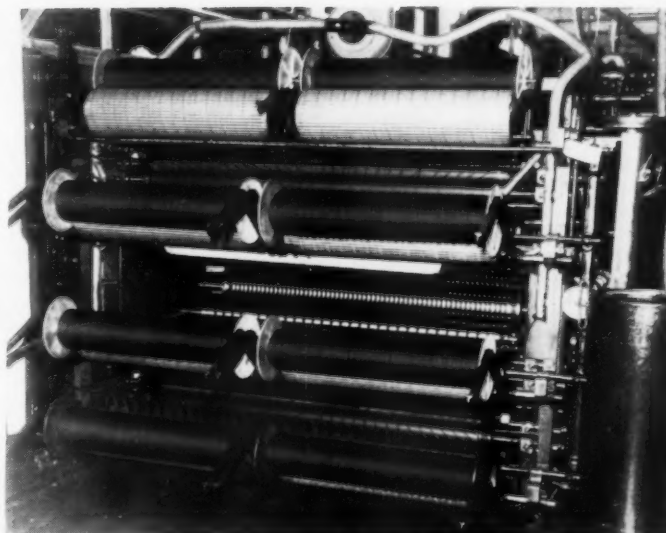
3. The first breaking operation is shown in the photograph at the center. The various rollers cone, rub and further break open the stock. The Peralta section of the breaker is directly above. Shown is the coherent web which has been transformed from the loose stock by the carding action of the cylinder and worker rolls on the three-breaker card.



4. The web, now conveyed by a Scotch feed, in photo below, is deposited on an intermediate feed apron where it receives a progressively finer carding on the intermediate and finish breakers of the three-breaker card.



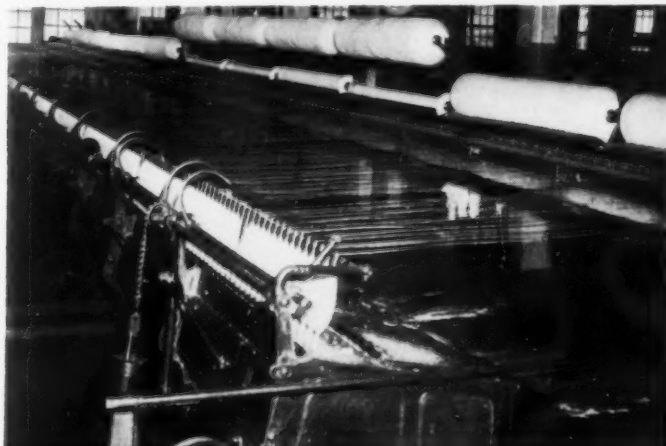
5. Tape condenser which divides the carded web into even strands and forms each strand into roping.



6. Finish end of card. The stock is passed through the final series of rollers and is put up in roping form on long spools ready for spinning.



7. Ring spinning, one of two ways of converting roping into yarn under the woolen system. The ring spinning frame operates in continuous fashion and is a more modern way of spinning than the self-acting mule.



8. Self-acting mule or jack. The mule has a movable carriage which drafts and spins the roping into yarn in two operations. Mule spinning is gradually being discarded in favor of ring spinning.

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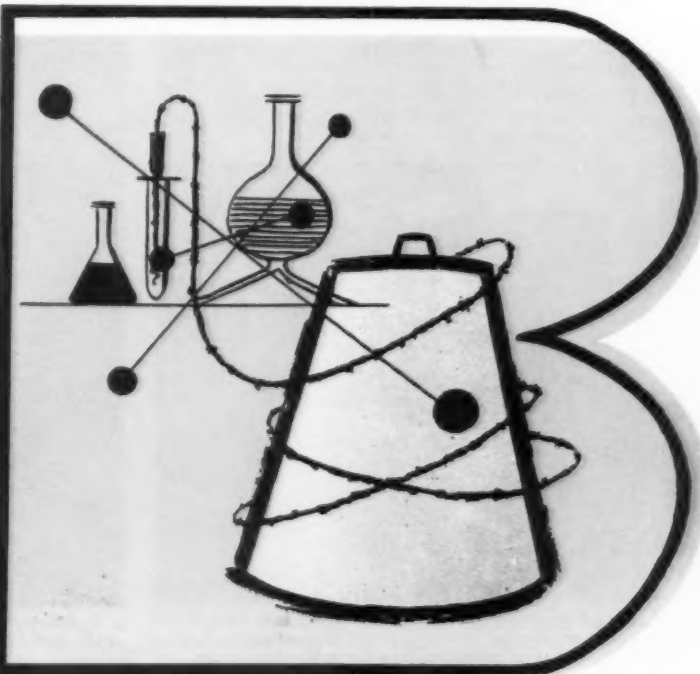
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Wool Yarn Processing

Masurel Mills Converts From French To American System

WOONSOCKET, R. I.—Masurel Mills, established here in 1924 in a wing of a former cotton mill, produced worsted yarns entirely by the French system for thirty years and, during that period, was probably the only mill in the United States spinning yarns used for lace work to a fineness of 120 count.

Today, the plant is almost entirely converted to the American system and but one French frame remains in operation and for that too, rovings are produced from top, thereby eliminating five of the preliminary operations characteristic of the French system. However, a French rover is still employed.

The firm has discontinued spinning camel hair, angora, cashmere and novelty fur fibers and now produces specialty yarns from wool, generally ranging from 50/54s to 70s, both domestic and imported, alpaca, mohair and the synthetics. More than 90 percent of the production is fancy twist such as chenille, nub, ratine, flanne and metallics for which French-made equipment is used.

Jacques E. Staelen, general manager, said first thought was given to converting to the American system in 1954 and a pilot plant to experiment with the method was set up. Floods in this area in 1955 that destroyed all the equipment on the first floor, however, forced an immediate decision. French gilling and combing equipment and carders were lost and French mule spinners totaling 9,920 spindles previously discarded,

were put out of operation and company officials were faced with the immediate problem either of making replacements to continue spinning by the French system or installing new equipment for American system spinning which had become increasingly popular since the war. The latter had many advantages and economical features and a decision was made to convert. Eighty-six hundred McGlynn-Hays spindles, now in use throughout the entire plant, replaced the French mules. Worsted yarns, now spun for swimwear, dress and sweater knitters, range in size from 1/5 to 1/55 and Ban-Lon and Spunize yarns are produced in volume.

Three ounce top is first processed in a series of pin drafting operations, three for the American system and eight to ten for the French. This department has 12 Warner-Swasey pin drafters and one auxiliary. Four are assigned to each stage. Raw stock may be reduced from 800 to 150 grains in the first pass, to 95 on the second and to 63 on a third. Fiber lengths are handled ranging from 2½ inches to nine inches.

Each pin drafter has two feeds with pins set top and bottom 15 to the inch. Racks will accommodate four balls of top on each side and belt conveyors feeding the pins may draw from each of four balls. Mixes and blends are made during the pin drafting by simply processing different types and shades of top simultaneously.

Before passing through the pin drafters, top is sprayed with a one to four or five percent oil emulsion for static control by automatic Acumeter pumps. After passing through the pins a gear mechanism gives the sliver a half-turn and feeds the spiral into canisters — 1,100 yards per canister. The drafters are equipped with Veder Root counters set to stop the flow automatically at any desired length.

Roving is produced on three Saco-Lowell rovers of 120, 72 and 48 spindles respectively, a Whitin machine of 120 spindles and the French rover. On American machines, an apron conveyor carries the sliver under a pair of drafting rollers which can be pressurized from 0 to 175 pounds and which may be adjusted at varying distances apart to accommodate different fiber lengths. Amos Bricault, mill superintendent, said that within five or ten minutes, spread between the rollers on the American machines can be

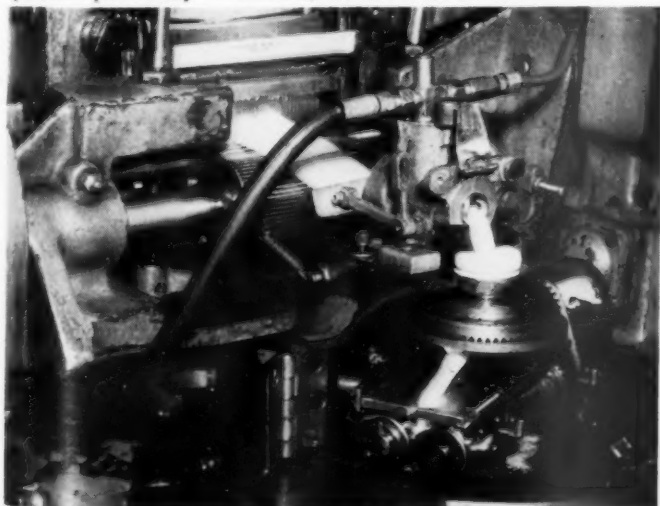
changed from an adjustment for 4½ inch fibers to process nine inch fibers.

On the French rover, since no twist is imparted to the roving, no pressure is exerted by the back rollers and no more than fifty pounds is used on the front fixed roller which is about three and one-half inches in diameter. Back rollers are removable and consist of a series of different sizes and weights interchangeable which are arranged in various combinations best suited to the sliver being drawn. Rub aprons are used to give the sliver added strength. Porcupines on the top of the frame hold fibers in place during the drawing.

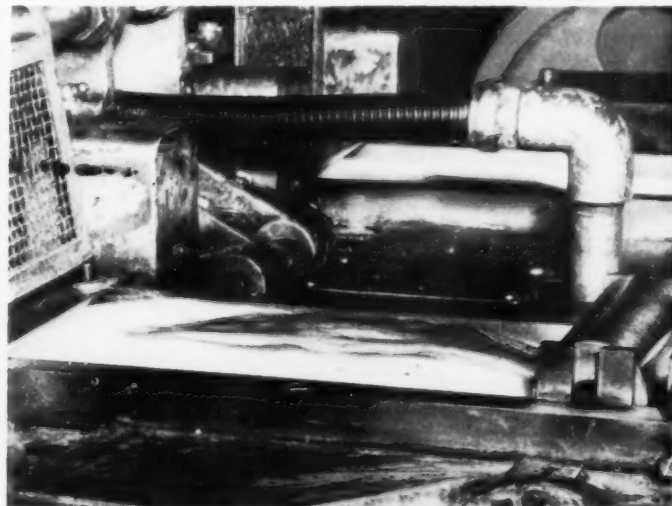
For American spinning, 13 Saco-Lowell ring frames of 240 spindles each are used and there are also, two Whitin frames of 240 spindles each, employing the Casablanca long draft system. The single frame now in operation for French spinning has 400 spindles.

Mr. Bricault said one of the principle advantages of the American equipment was its adaptability. Racks can be reset and weights can be controlled to effect greater evenness. Apron carriers convey the sliver under a set of three rollers and one of the controlling factors is the ratio between the pressures exerted by the front

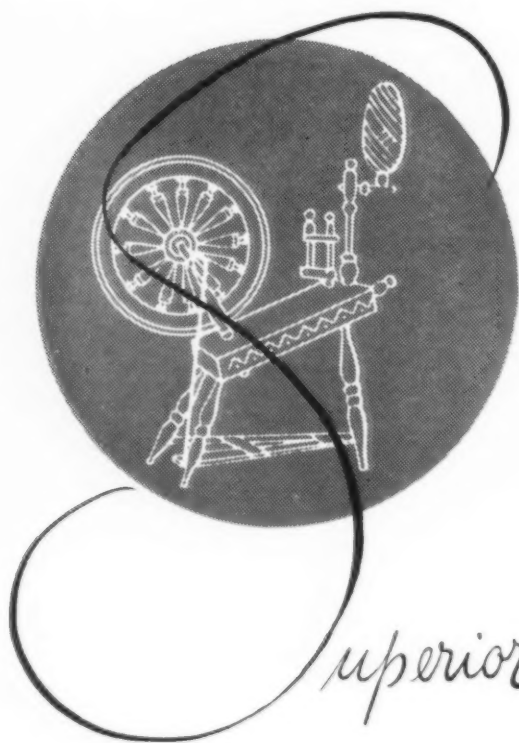
(Continued on Page 15)



Pin drafter with casing open to show feed mechanism and gears that give sliver-half-turn as it spirals into canister.



Blending and mixing is accomplished by feeding different shades of top into pin drafter simultaneously.



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roller and the back, which on a typical operation might be 110 pounds on the front and 90 on the rear.

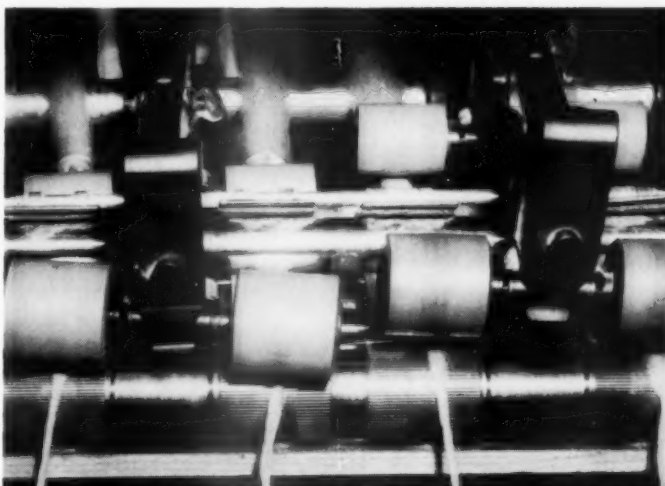
On the French spinning frame, a twist is given the roving before the fluted carrier rollers draft it under a battery of rollers, all of different size and all operating at different speeds. These are set at varying distances apart and merge closer together as they approach the front of the frame in order to catch up the short fibers. These rollers exert no pressure and the fibers slide into position in passing from one stage to the next. Waste is caught up on a plush bar.

In comparing the two systems, Mr. Bicault said the American equipment achieved better quality, faster production and at a lower cost. Waste is about three percent less than the French system which might lose up to 1½ percent in the drawing room and two percent in the spinning.

Quality control is maintained by frequent laboratory testing at every stage of production. All top coming into the mill is examined for evenness of sliver, nubs and color. To test uniformity, electronic Uster tester equipment is used. This apparatus functions somewhat on the principle of radar. Sensitive to less than a hair's thickness, it records electrical impulses on a graph and variations in a fiber can be detected at points where the impulses have been interrupted. Each lot processed is tested at about seven operative stages.



Series of back rollers on French roving equipment are of various weights and sizes and are interchangeable. No twist is imparted, no pressure applied.



Rollers on American roving machines are flexible and may be adjusted at varying distances apart to accommodate different fiber lengths in a matter of minutes.

Incoming raw stock is visually inspected and compared with a norm chart for shade, and one ounce samples are examined for cleanliness and given a vegetable matter and nib count. Eight tests per day are conducted on units of 120 yards, for size and strength, and are made on every spinning frame.

Moisture tests on in-coming raw stock and finished yarns are made by the Soxhlet extraction method. Shrinkage tests are conducted on all synthetics and there is a twist count for every lot processed by the mill. In addition to routine testing, the laboratory is equipped to perform cloth analysis and micro-testing of fiber diameter of incoming top.

For fancy twisting, there are 28 machines manufactured by

Ateliers de Construction de Bitchschwiller, at Haut Rhin, France. Some of these have 100 spindles, others 200 and both three inch and 2½ inch spindle ring sizes are employed.

One type of machine can be adjusted to twist chenille, nub or ratine while the other type is used for the production of flammé and a variety of other intricate yarns used for high-fashion knitwear. These novel yarn effects, which constitute something over ninety percent of the production, are accomplished by feeding the ends making up the yarn at different speeds.

Starting afresh on another system with new machinery after the flood of 1955, the management had an opportunity to pay particular attention to plant layout and materials handling.

The mill occupies 45,000 square feet on two floors, one at street level. Production flows from the second floor with the finishing departments on the first. The skein winding department adjoins the twisting room and the packaging department is served by a 2,500 square foot shipping area.

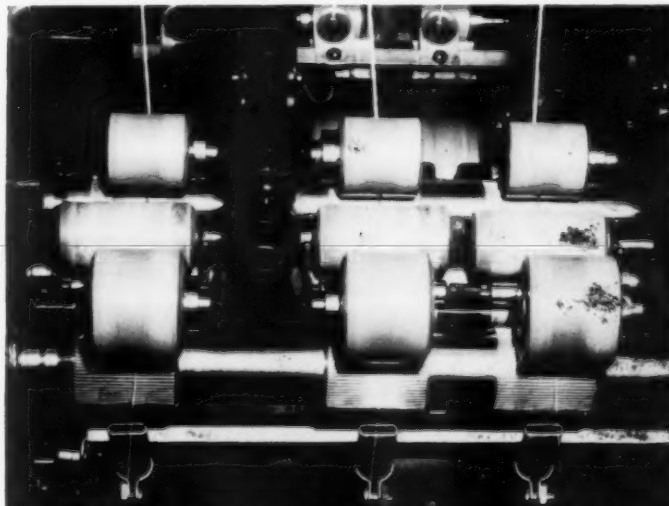
A heat chamber, where spun yarn is conditioned at temperatures usually around 180 degrees to facilitate handling, is also located on this level.

The drawing room on the second floor has a maximum capacity at present of about 28,000 pounds per week, and the 1.2 hank rovings are stored in fiber baskets fitted with casters for easy conveyance to the spinning room on the same floor.

To prevent contamination of fibers blowing from one frame to another, spinning machinery is separated by plastic curtains and screens, the latter used to allow greater ventilation.

Some cone spinning is also done on the second floor. In all there are four Universal Rotoconers, which wind one hundred one to three pound cones per machine, and yarn on spindles and in cones transported to the first floor by means of a 90 foot belt conveyor which serves a track of roller conveyors in the finishing departments at the lower level.

For maintenance, the mill has six full-time mechanics and a machine shop suitable for making small parts and equipped with lathes, milling machines, band saws and a welding room.



Adaptability of racks on American spinning frames which can be set to accommodate various fibers effects greater evenness.



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Wool Knit Styles**Versatile Wool Sweaters For Campus And Skiing**

Pullover, above, by Robert Bruce in washable wool and mohair is brushed to a luxuriant shaggy surface. Neat V-neck exposes clean-cut necktie are. It comes in purple plum, camel, chianti, blue, tuf green or gold. Right, a checkerboard, all-wool Kingstone ski sweater has miniature squares in three colors and a detachable turtle dickey for extra protection against wind. Wool can stretch to twice its size during active play and then spring back to original shape.



Bold surface texture is featured on Puritan's Elmora, left, with its novelty collar and on the Parma, with high-V and raglan sleeves. The Elmora, retailing at \$16.95, comes in white and gold, white and olive, white and dark oxford, gold, olive, piedmont blue, java or dark oxford. The Parma retails at \$25 and comes in white and gold, white and olive or java



A brushed, long-sleeved pullover with alternating gray patterned stripe by Robert Bruce is offered in sizes S-XL at \$12.95 retail and in a choice of charcoal, evergreen, sycamore or winter white background.



Bulky cardigan jacket by McGregor is enriched with leather trimming around the collar, the deep patch pockets and the snug buttoned cuffs. It comes in the newly favored zip-up style, fully lined for extra warmth, in sizes 36-46, at \$35 retail. The color choice is Polar white, charcoal gray, covert green or tan.



Dartmore makes this zig-zag striped pullover with button-over shawl collar, snug cuffs and bottom band in solid contrast. Sizes are S-XL. Price is \$16.95 retail, and colors are gray and white, olive and black or gold and black.

Photos courtesy, Woolknit Associates, Inc.



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Woolknit Fashions**Longline Bulky Wool Sweaters Come In Varied Styles**

Navajo art has furnished the authentic design of this woolknit ski sweater. A bold print is knit into the sweater which is elongated to cover the hips. The design is carried to the edge of the boat neck, cuffs and hem where no ribbing is used.



New bulky sweaters feature a variety of knitted-in patterns. Alternating bold stripes of knit and purl on the body of the sweater at left, below, form the background for large diamonds embossed within the purl rows. Very new sweater silhouette is the poncho pullover pictured right with deep V-neck, shawl collar, and contrast color striping around edge and collar. A ribbed texture in the knitting adds further interest.

The belted tunic is becoming increasingly popular this year. Seen left in a soft brushed wool and mohair pullover, the sweater features drawstring waist and softly rounded collar. New and interesting textures are also sweater news as evidenced by the sweater on the right. Ribbing on the wing collar, patch pockets, cuffs and strip down center of this cardigan provide bold contrast against the lacy daisy stitch which predominates.

Horizontal and vertical stripes on two long line tunic length sweaters. Left, bold stripes are knitted into this ribbed cardigan featuring shawl collar and low-slung hip pockets. Right, a horizontal stripe effect is gained in the rib stitch knitting. Shallow bateau neck and a self belt that can be worn if desired add further interest.



Photos courtesy, Woolknit Associates, Inc.

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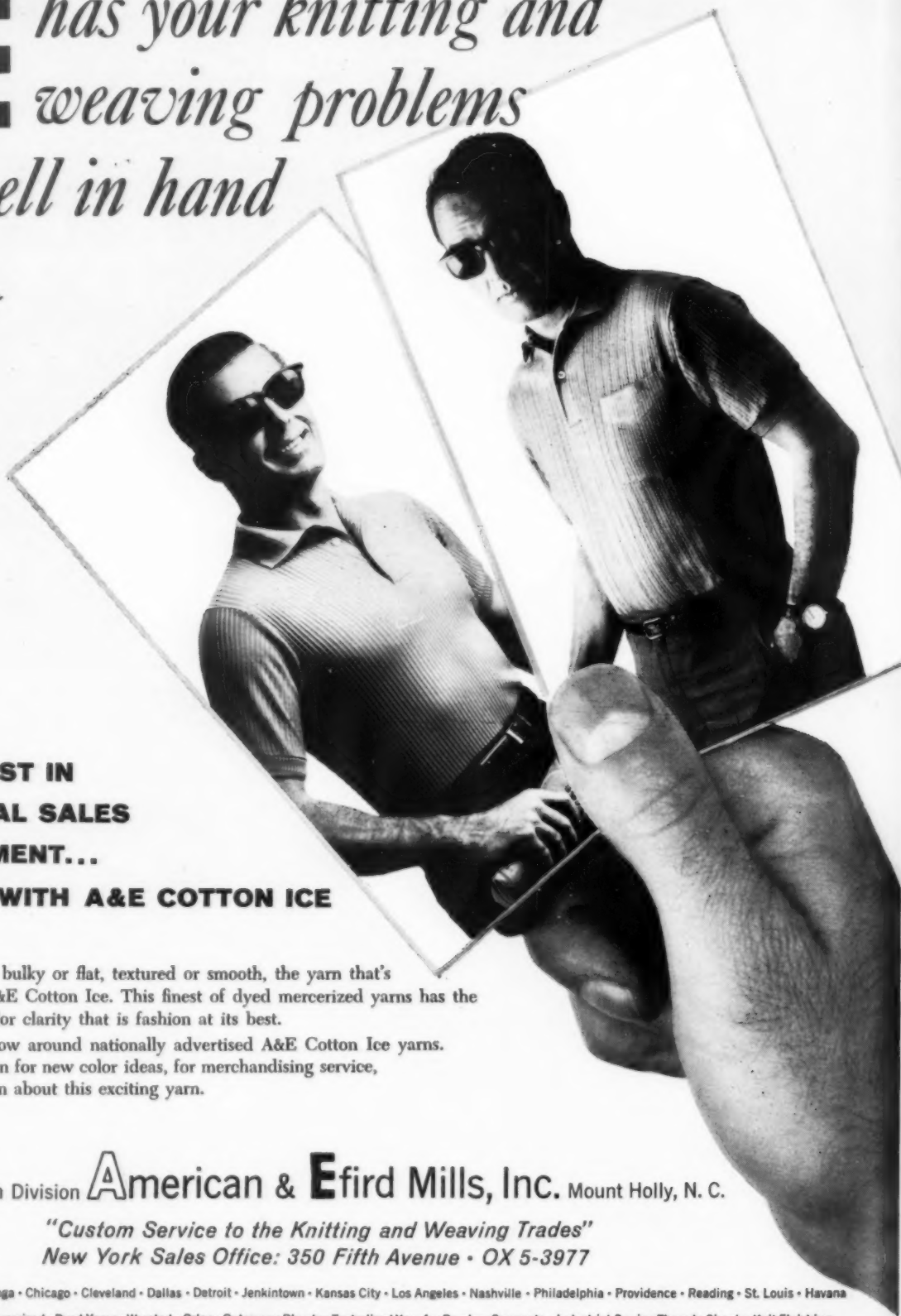
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Knitting Equipment Developments

Electronic Machine Dispenses With Knitter Skills

MANCHESTER, England—A new approach to the problem of creating a shaped garment with all the fashioning of the designer knitted in has resulted in the development by a British inventor of a fully automatic electronic knitting machine which uses an entirely new knitting technique to produce three-dimensionally fashioned knitgoods.

The machine, which, is commercially available, is called the Macqueen Tailor-Knitting Machine, after its inventor, Kenneth G. Macqueen, managing director of Macqueen Cybernetics Ltd., 25 Dover Street, London W. 1. This technique makes possible automatic production of complete garments with sleeves, collars, cuffs, pleats, bows, etc. in a single operating cycle (requiring only slight fabrication without the need for skilled knitting machine operatives).

It is claimed that the potential application of the Tailor-Knitting technique in jersey dressgoods, in particular, is practically unlimited, and there is a distinct possibility that it could change the very structure of the dress trade, since it puts dress manufacture within the reach of concerns with no existing facilities or skilled knitting operatives for knitgoods production.

The idea underlying the Macqueen Tailor-Knitting technique is quite simple. It is based on the manufacture of Basque berets of the sort which are

formed by knitting wedge-shaped sections of fabric on a specialized type of single-bed flat machine, by decreasing the number of needles knitting in successive courses. The needles that are not knitting retain their loops until they are again required to knit in the next wedge-shaped section; and so section after section is knitted, forming a continuous spiral of fabric.

When enough sections have been knitted to form one complete beret, several courses of looping waste yarn are knitted in, and the next group of shaped beret blanks is begun, so that the continuous spiral of fabric comprises beret blanks joined to each other by the looping waste yarn. The beret blanks are made up into berets by looping the first and last courses together, at the same time removing the looping waste yarn.

This technique is the basis of the three-dimensional 'tailoring' which can be applied to articles produced on the Macqueen machine, for if one imagines a piece of fabric shaped in in the same way as a beret, but much larger, it would be a circular skirt. By altering the design of the wedge-shaped sections (i.e., by varying the frequency and extent of the widenings and narrowings), any shape of skirt could be produced. Further, skirts could be knitted as continuous fabric with looping waste yarn separating the individual skirt blanks, for making-up in exactly the same way as berets.

A piece of fabric thus shaped but not looped is virtually a circular cape. For a dress or suit, sleeves can be knitted as part of the continuous fabric, but separated from the body of the garment by looping waste yarn running from hem to underarm position, the sleeves being looped on afterwards in a separate operation.

It will be obvious from this

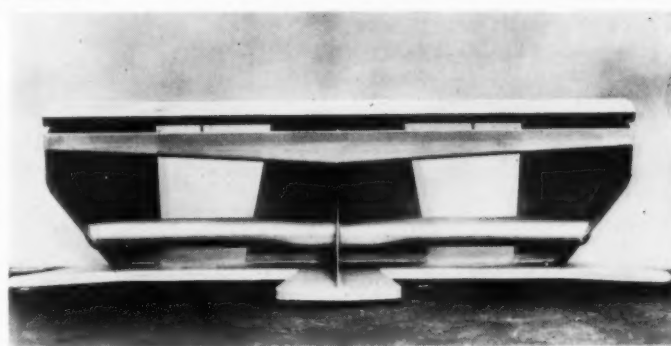


Figure 1. The chassis of the Macqueen knitting machine. The tubular member provides the main strength of the frame, which is mounted on two wide-apart feet at the back and two close-together feet at the front, forming in effect a three-point suspension which absorbs bending moments in the frame instead of passing them on to the needle beds.

that tailoring a garment, at the shoulder, bust, waist, collar, etc., becomes merely a matter of incorporating the correct widenings and narrowings.

It is important to realize that such shaping or fashioning is only possible because of the method of knitting employed on the Tailor-Knitting Machine, which requires that the courses run vertically down the garment and not horizontally as in normal practice. It is at once evident that this technique goes far beyond orthodox selvedge-shaping in two dimensions and provides genuine three-dimensional fashioning with practically unlimited possibilities.

This fundamental idea for manufacturing a fashioned garment has been applied by the inventor to what is broadly a double-system V-bed flat weft knitting machine, although in many of its details it differs considerably from conventional weft knitting machines and contains numerous features which are in themselves worthy of study. Some idea of the production potential may be judged from the inventor's claim that a batch of eight 'slave' knitting machines, working under a single control unit and supervised by a single knitting machine operative per shift, could produce 54,000 dresses, for example, per year, on three-shift operation. These eight machines, together with their associated equipment, would occupy a

floor area of only 2,400 square feet.

The Macqueen Tailor-Knitting Machine is electronically controlled in every detail. This does not imply merely the incorporation of a few solenoids to initiate and terminate certain functions; the whole machine has been designed and created on sound principles of electronic (Continued on Page 23)



Figure 2. View of the front needle bed and cambox.



Figure 3. Silhouette of the needles, clavettes and jacks used in the Tailor-Knitting Machine, showing the three lengths of clavette and the four components of the needle (hook, hollow stem, internal sliding member, sliding member stop).



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engineering. Specially-designed control systems are combined with sensing and feed-back devices so that every knitting function is carried out and supervised to a degree of accuracy totally impracticable with mechanical or electro-mechanical methods.

The knitting machine itself is only part of the complete production unit which forms the Tailor-Knitting system. The inventor has in fact designed and produced every item of equipment needed to translate original fashion ideas into garments. Special graph and chart papers are provided for drafting the design, together with coding instructions and equipment for production of perforated control tapes. These tapes, which are placed in magazines, like films in cassettes, are loaded into a tape reader cubicle which passes the instructions contained in the perforations via a master control cubicle to a number of machine control cubicles, one of which is provided for each 'slave' knitting machine. The machine control cubicle instructs its associated knitting machine what to do, sees that it is doing it and keeps the master control cubicle fully informed so that, by feed-back control systems, all operations are precisely controlled. One tape reader cubicle and one master control cubicle can normally control up to eight 'slave' Tailor-Knitting Machines; even more could be controlled by specially built equipment. The number of machines to each tape reader cubicle and master control cubicle can be varied simply by removing cables from one cubicle and transferring them to another.

The complete equipment for one production unit therefore comprises: design drafting board; coding desk; tape perforating desk; tape reader cubicle; master control cubicle; machine control cubicle; and up to eight Tailor-Knitting Machines.

The knitting machine itself has a V-bed arranged in the same position as that on an orthodox flat bed weft knitting machine. The overall size of the machine is 12 feet long x 3 feet high x 2½ feet wide, with a maximum knitting width of 6 feet. The camming provides for double-system knitting (i.e., two courses are knitted for each

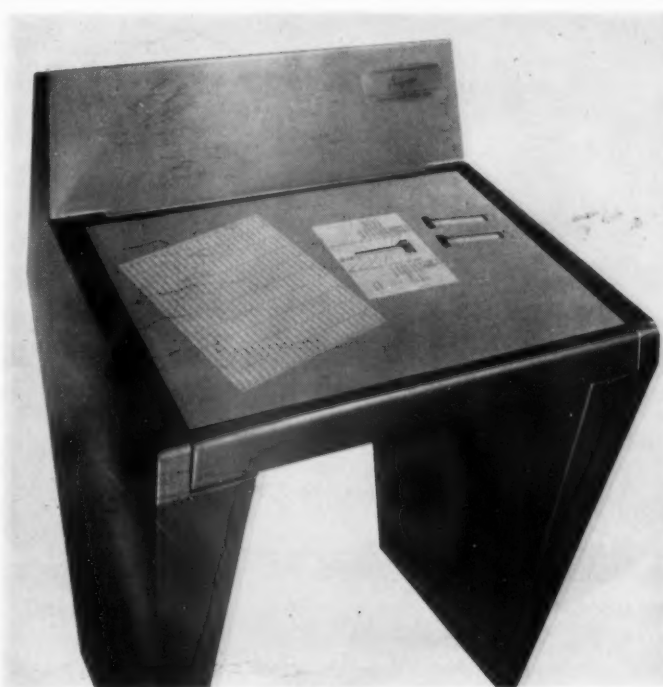


Figure 4. The coding desk, specially designed to facilitate the task of putting all the knitting instructions onto rolls of paper which will then be used to punch the plastic control tapes.

traverse of the cambox). The cambox traverse is controlled course by course, so that the cambox moves only across the actual knitting width in each course and not across the full bed width. This feature is calculated to save 35 percent of the total knitting time which would otherwise be required when knitting an average size dress, for example.

The gauge of the machine can varied between eight and 16 needles per inch simply by re-

placing the top part of the needle beds and the knitting elements. Eight yarn carriers are provided, for eight colors or types of yarn, and creel space is sufficient for two supply cones to be tied top-to-tail for each yarn. Each yarn is controlled by a special type of Macqueen automatic tension regulating unit.

The back bed can rack over 1, 2 or 3 needle spaces at a time up to maximum of 24 needles—12 on either side of

a central position. Individual needle loops may be transferred from front to back beds, or vice versa, and each needle selectively, or all needles collectively on one or both beds, can be made to knit or miss to a depth of 300 courses. Provision is also made for laying-in so that course, fancy effect yarns can be incorporated into the knitted structure in this manner if required. The knitting quality (stitch length) is adjustable through fifteen pre-set valves which can be selected whenever the cambox is at either end of its traverse.

The needles are similar in working principle to the F.N.F. compound needle in which the orthodox latch is dispensed with; each comprises a hooked part with a hollow stem in which slides a closing member. Each of these stainless steel needles operates in conjunction with a jack and a clavette of special construction.

The electronic components are housed in individual cubicles of modern design such as are now increasingly used in the electrical and electronic industries. The provision of such meticulous and comprehensive electronic control necessarily involves a lot of complex equipment, but it must be emphasized that this machine is the result of five years of intensive development, involving over 75,000 design and drawing-off hours. Apart from those units which have been specially developed for this application, the electronic components are standard items such as have long been proved reliable in telecommunications and other fields. Modular construction has been adopted so that, should any section of the equipment become defective, it can be replaced immediately by plugging in a new section, thus eliminating possible production hold-ups.

Sales of the Macqueen Tailor-Knitting Machine and its associated equipment are handled by Macqueen Cybernetics Ltd., who also undertake, if required a complete design translation service, supplying to users of the machine the perforated control and pattern tapes on an exclusive basis. The company will also undertake the training of

(Continued on Page 25)



Figure 5. Overall view of the tape perforator desk.



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the operatives required for producing the tapes in the manufacturer's own works, as well as providing electronic engineers and a complete maintenance service.

Starting from a garment design, the preliminary working instructions are drawn out course by course on squared graph paper supplied for the purpose, using a special design board. A dress or coat requires six sheets of paper (half front, sleeve, half back; half back, sleeve, half front), and one sheet for patterning instructions. Other garments can be drawn out in appropriate sections.

From these graph papers, the information is coded onto rolls of chart coding paper; one roll for the control functions and either one or two for the patterning, depending on the complexity of the design. The information at this stage includes the stitch length for each course, linear speed of cambox for each course, yarn to be selected, individual course lengths, loop transfer, racking, etc. A coding desk specially designed for the purpose reduces this operation to its simplest elements. A special binary octal code system is used to translate all the requirements of the design in instructions which will eventually be fed to the machine.

The rolls of coding chart paper are fed one at a time into the tape perforating desk, and the information they contain is projected onto a screen in front of the operator, who manipulates a keyboard to produce a perforated plastic tape, one for each coding chart roll. Each of the resultant tapes is of black opaque plastic and is 5½ inches wide with a standard 35 mm. sprocket perforation down one side. 36 holes, each one-sixteenth inch diameter, can be perforated in each line of the tape. On the control tape, the lines are 'read' in pairs, controlling the two courses of double-system knitting for each traverse of the cambox. On the pattern tape(s), the lines of perforations are set at an angle and are read in sequence. The control tape programmes the following functions:

- Knitting width of each course.
- Quality (stitch length) of fabric.



Figure 6. Tape magazine loaded with plastic tape and ready to be inserted into the tape reader cubicle, which is in the background.

- Color or type of yarn.
- Speed of knitting; the linear speed of the cambox can be varied through 16 pre-selected speeds, ranging from zero to an average working speed of 135 feet per minute.
- Repetitive knitting; if several identical courses are to be knitted in succession, the instructions issued for the first such course are maintained for the required period and do not need to be repeated at the beginning of every course.
- Racking or loop transfer.
- Beginning and end of garments.
- Choice of pattern tape reader (No. 1 or No. 2 pattern tape).

The pattern tapes contain needle-by-needle instructions over the whole width of the machine, to a depth of 150 courses per tape, and give instructions for knitting or missing as required.

The control tape and the one or two pattern tapes are next inserted in their magazines and placed in the tape reader cubicle, which is divided into control and pattern sections. The perforations in the tapes are deciphered and the appropriate instructions are passed to the master control cubicle. The control tape reader can control up to 9,000 courses on one tape.

The No. 1 and No. 2 pattern tapes issue patterning instructions across the knitting

width (the control tape limits the effectiveness of these instructions only to the actual course length, which is programmed individually). On a 10-gauge machine, each pattern tape reader can control up to 150 x 1440 = 216,000 possible pattern selections. In addition, the following patterning instruction can be controlled by the pattern tape reader.

- Plain knitting on both beds.
- Plain knitting on one or other bed individually.
- 1 x 1 rib on back bed only.

The next step in the control sequence is the master control cubicle, which receives the instructions from the tape reader cubicle, decodes, amplifies and modifies them and passes them on to the individual machine control cubicles. The machine control cubicles, one of which is provided for each Tailor-Knitting Machine, break down the instructions into commands to the motors, solenoids, etc., of the actual knitting machine.

The Tailor-Knitting Machine itself contains numerous features worthy of study. The whole frame is cantilevered off one back channel and mounted on four resilient feet, two at the extremities of the back and two close together at the front, forming in effect a three-point suspension. The rear feet are both below the side plates of the machine, which are welded to a substantial tubular member pass-

ing along the full length of the frame. The front feet are secured to a vertical plate in the center of the machine which is also welded to the tubular member. The weight of the machine acting on the feet produces bending moments and the effect of these is absorbed by the tubular member and not passed on to the beds.

To keep the machine length to a minimum, the yarn supply packages are mounted on conical dishes so that they are accessible from all sides, and the end of the frame are curved inwards near the floor to allow space for the dishes. The supply cones (each of 2 lb. capacity) are tied top-to-tail (two packages for each of the eight yarn carriers) so that replenishment of the creel is minimised.

The needle beds, which are in six-inch sections for ready replacement in case of accidental damage, are made of a hard-anodised aluminium. They are secured to bed section carriers which in turn are mounted on longitudinal keys set in a lower bed. This complete assembly is mounted on a further plate called the sub bed, which is bolted to the frame proper and provided with pusher and puller screws for accurate alignment. The sliding action of the back bed during racking takes place on the longitudinal keys mentioned above, which take the weight and preserve the alignment of the bed sections.

The total weight of the 10-inch wide double-system cambox is 80 lb. It is mounted on nylon-tired ball-races which hold it rigidly in position on its tracks while enabling it to glide smoothly across the beds.

The double-system camming provides for knitting or missing as well as loop transfer from front to back and back to front selectively or collectively in both directions of travel of the cambox. Mounted in the cambox, which is pressurised to prevent dust entering, are a total of 24 electro-magnetic selectors for the clearing and transfer actions of selected needles, 4 stitch cam actuators for determination of stitch length, transfer cam and solenoids, dust expeller, temperature compensation unit, and fluff extractors at each knitting point.

(Continued on Page 29)

Trade Drives

Menorah Dinner Oct. 30 To Honor Morris London Of Commodore Mills

FIFTY-ONE years ago, when Morris London was 14, he went to work in the knitting industry. The same year, in a place far away from him, the Menorah Home and Hospital for Aged and Infirm held its first annual dinner.

This year, October 30 at the Hotel Astor, the Home will hold its 51st dinner. The guest of honor will be one of its chief benefactors, Morris London, now president of the thriving Commodore Knitting Mills in Brooklyn, a director of the National Knitted Outerwear Association and vice-president of the Eastern District.

Expresses Pride

Reminiscing recently, Mr. London made it clear that he considers this honor one of the high points of his career. "I am proud that my friends in the knitwear industry all associate me with Menorah," he said. "When someone wants to get a person into the home and they think I can help, they phone me."

Mr. London works hard at his business. "They have to ring a bell to get me away from

work." He is known as one of the most informed of knitwear experts.

His company makes children's wear, but he is interested in the whole industry. "Children grow up. We're all part of the world. Right?"

He believes the industry's recent growth accelerated after the Korean War. "Knits today are more popular than ever. Today it's a necessity in the wardrobe. In some parts of the country it's the biggest item. In the Southern resorts especially. Also California. A sweater there is a year-around item."

Technical Advances

To him, the most striking new factor is technological. "We have more variety in stitches than ever before. Now with your



MORRIS LONDON

bulkies so popular, you need all these stitches. We have better methods of dyeing, too — more stainless steel, improvement of the chemicals to create new colors. And the synthetics and the blends. Orlon has been the biggest thing for the industry. Without it, we would never have the goods we produce. And you have high-speed equipment that has increased production so we can make all specialties, coarse gauge to fine gauge."

Will the small companies keep

pace with the larger ones? "Why not?" he said. "The small company can do well, too. Don't get me into a small company against the big company argument. You know there's all kinds of companies—rich rich, rich poor, poor rich, poor poor. Some companies have lots of machinery but no cash. Some have not as much machinery but they have cash. So anything can happen."

He was pressed for a detailed statement on what he thought would happen.

"Progress," he said.

Yarns

Duplan Names Salesman To Its New York Office

WINSTON-SALEM, N. C.—Gilbert Conaway, formerly of Sniafibres Corporation, a subsidiary of Snia Viscosa, Milan, Italy, has joined the sales staff of The Duplan Corporation. From the New York City office, he will handle sales of processed yarns and textured yarns.

Mr. Conaway has been with Burlington Decorative Fabrics and Tennessee Eastman Corporation.

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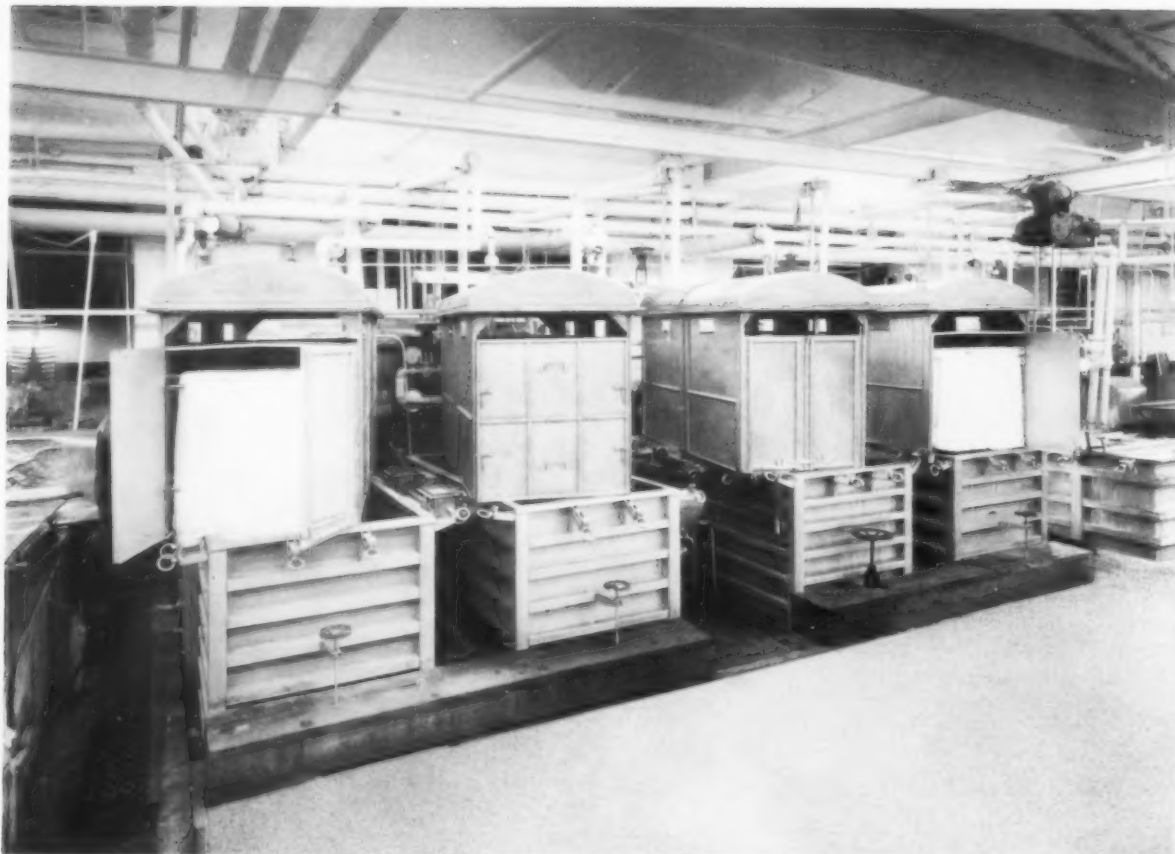
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Figur
readers

At every position in the pattern tape where a hole is punched at a given place in the line of perforation, the corresponding needle is selected to knit. Needles are selected serially, as the cambox traverses the machine, by means of the electro-magnetic selectors referred to above. The jack butts pass along the face of an electro-magnetic stitch cam in the cambox; when this cam is energised, the jack butt is drawn up its face, and via a clavette pushes the needle into knitting position. To increase the time available for selection, each selector acts only on every third jack in each bed and there are therefore a total of 12 selectors in each half of the cambox. Three lengths of clavette are provided, engaging jacks in three cam tracks in each half of the cambox. Two complete sets of selectors are required, one for each direction of travel of the cambox; the signals from the pattern tape are automatically channelled to the correct set whenever the cambox changes direction. The energising and de-

energising of the electro-magnetic selectors takes place during only $3/1000$ ths of a second.

The stitch length cams operate in slides and their position during any traverse of the cambox determines the length of stitch formed by selected needles in that course. Each of the eight stitch cams is positioned by a unit which comprises four solenoids, each of which individually moves the stitch cam by a different amount via a lever. By combining the four solenoids in any of fifteen possible ways (the mechanism automatically adding the individual amounts of movement) the stitch cam can be made to travel from 0.041 to 0.125 inch in steps of 0.006 inch. The stitch length in any course is determined by perforations in the control tape. It will be appreciated that on the Macqueen Tailor-Knitting Machine, the stitch cam setting determines what would normally be the wale spacing while the gauge of the machine determines the number of courses per inch, bearing in mind the direction

in which the garment is created on this machine.

The amount of traverse of the cambox, (i.e., individual course length) is controlled in every separate course by a specially designed unit to accuracy of 0.010 inch, equivalent to about one-third of a needle space. The 35 percent saving in knitting time which this feature makes possible, as already mentioned, is a valuable commercial asset of the Tailor-Knitting method; at the same time, to accomplish such precision control over the cambox, which weighs 80 lb. and may be travelling at 135 feet per minute, is a very creditable engineering feat and is one of the most notable achievements of the Macqueen machine.

When the cambox comes to rest at the end of each traverse, a static operation cycle occurs, lasting for 0.45 seconds, during which time new instructions, if any, are fed to the machine: loop length for the next course; traverse speed; yarn carrier to be selected; racking, if required;

transfer cams to be actuated, etc. If no changes of instructions are needed, the existing instructions are maintained without alteration. When the new instructions have all been given, an interlocking series of switches closes and the cambox is permitted to begin its next traverse.

A bank of signal lamps indicates when the interlock switches have failed to close, thus providing visual indication if a control circuit is defective. All the control circuits operating these interlocks are mounted in the master control cubicle, except for those which individual interlocks are provided on the knitting machine itself. As all eight machines in a set may not be in operation simultaneously, cut-out switches are provided on each machine, and these are also wired up to signal lamps so that visual indication is made of which machines are actually knitting.

The cambox is driven by twin steel belts in the form of loops, the ends of the loops be-

(Continued on Page 34) 72

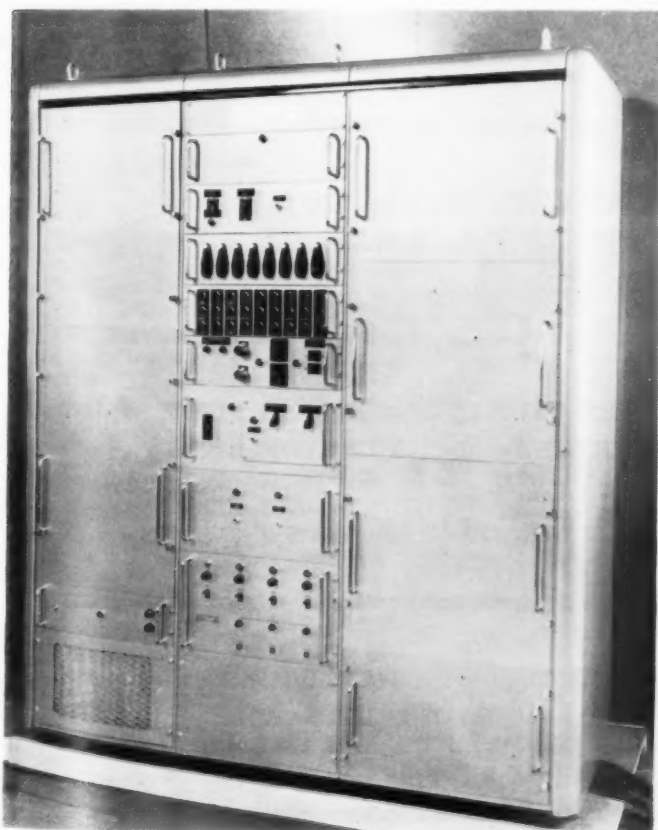


Figure 7. Master control cubicle, which receives instructions from the tape readers and passes them in amplified and modified form to the individual machine control cubicles.

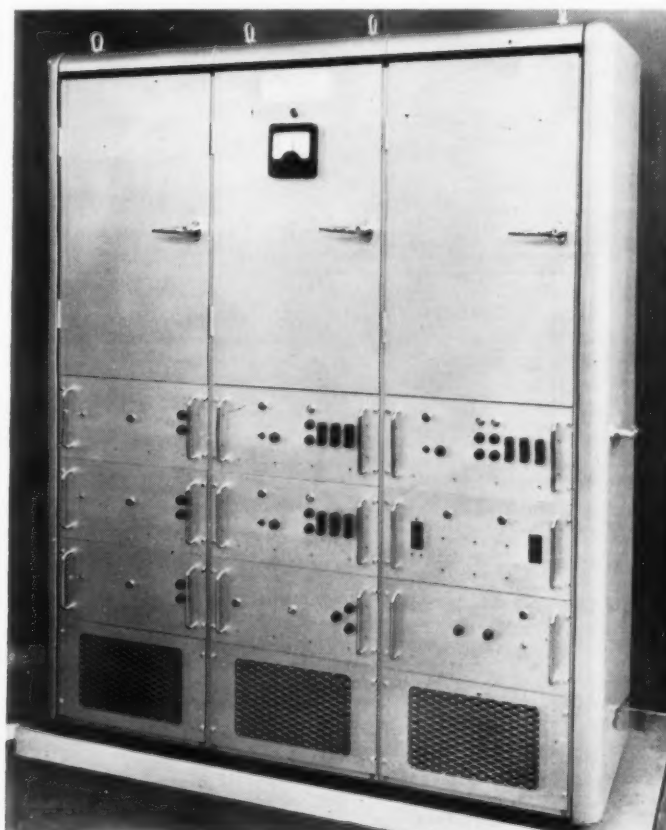


Figure 8. A machine control cubicle, which receives instructions from the master control cubicle and breaks them down into commands to the motors, solenoids, etc., of the 'slave' machines.



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One-And Two-Piece Maillots In Handler's Resort Line

LOS ANGELES, Calif. — Tweeds and textured knits form interesting and unusual constructions of cotton and Lastex-content fabrics in Maurice Handler's new junior swim suit collection. These materials, in addition to Helanca-processed nylon knits, are shaped into the dominant silhouette—the simple maillot accented with very low U- and V-shaped open backs squared off at the waistline.

Two-piece suits run a close second and come in a variety of styles featuring boy shorts or high-cut maillot bottoms.

Several very unusual numbers are in this collection. Among them is a suit appearing one-piece in front and two-piece in back. Peek-a-boo open slits on the diaphragm or below the waistline add interesting effects as do lowered waistlines and tabs or ties fastening bras to the shorts.

Woven and knitted cotton suits form a large grouping. A textured pink knit in the low back maillot silhouette demonstrates the surface interest of sailcloth and floral-printed sharkskin in yellow and white is used in one- and two-piece boy leg suits.

Cotton pique is seen in a one-piece sheath, daring in its low back and cut out effect on the bra; and in a duo of two-piece boy short prints. Sea motifs and floral patterns are the basic design of printed suits.

Sleek, stretch nylon Helanca knits are used in a group of one- and two-piece prints in colorful patterns. Ombres, flower appliques, and abstract florals on tweed are seen. The latter is a frosty blue maillot trimmed in white across the front and back meeting in a tie at the hip-line on one side.

Two sheaths in elasticized faille are in the collection. One is white trimmed in pink with middy blouse detailing and the other is a blue and white pin-stripe.

A Lastex-content suit is interpreted in a brilliant red sheath and in a demure gingham-checked suit, the latter having a broad white band across the bust and the semi-skirt.

Lastex knit maillots with legs cut almost to the hip bone are featured. Two outstanding numbers are a one-piece in an abstract print, and a white suit embroidered with gold floral

motif in one- as well as two-piece maillots. Two sheaths in the group include another embroidered Lastex and a dahlia print.

Knits and stretch knits are



Imported French nylon patterned in a large floral design of vivid color on a white background is the material used in this tailored maillot with single cut-out detail on the midriff.



A white Lastex-content maillot embroidered with gold floral designs features legs cut nearly to the hip-bone. This suit is also available in a two-piece version.

shown in a sheath with faille trim and also in a pale and subtle argyle plaid. A low back white knit sheath with button detailing on the bra line completes this group.

Interesting detailing is achieved in a knit maillot with buttons down the front and on the shoulder strap tabs, and in Lastex maillots with cut-out effects under the bra or on the

sides.

The ensemble look is popular in Handler's collection as is evidenced by groups of suits with matching or contrasting cover-ups which come in a variety of styles—loose, and belted, short and just below the suit length. Kimono sleeves are featured in some styles, while others are sleeveless.

A white Lastex maillot teams up with a flutter tie kimono top, and shining elegance is demonstrated in a gold nylon stretch maillot with radiance topper. Another novelty in knit fabric is a multi-colored horizontal-stripe top attached by a V-shaped tab to the black maillot pants and shown with a tailored top which is also assembled with a multi-color print sheath and a multi-color striped lined boy shorts suit. A cotton print sheath with elastic back and matching kimono sleeve top, and a novel sheath with daring cut-out back detailing and topper ends the ensemble sequence.

Imported French and Italian fabrics are used in several suits in this collection. The French fabrics, all knit Helanca, are seen in a two-piece print with high-cut maillot shorts, a floral print maillot with daring cut-out midriff, and a printed maillot. The Italian fabrics are printed Lastex in a floral pattern keyed by an asymmetric look with the effect of growing from the left hip diagonally across the torso to end at the right shoulder. Other florals include a pattern of mixed yellow flowers and one of pink and red roses. One outstanding number is a two-piece boy short suit in pink velvet with an embossed rose-patterned deep pink stripe.

To add a touch of elegance, sequins are used to emboss three numbers. One is a pastel sheath accented with narrow vertical stripe of sequins. Another is a deep blue sheath covered with sequins. It has an asymmetric top ending in a single wide shoulder strap. A white sheath with close, random-patterned silver sequins completes this grouping.

The bikini made a single entry in a white and yellow polka-dot design with three rows of ruffles on the bra front.



A frosty blue abstract print on white background patterns this stretch nylon knit. White trim crosses over the front and back to meet in a tie at the hip-line on one side.



Backs plunging to the waistline and narrow, wide-set straps highlight the maillot silhouette. Seen above in an imported Lastex fabric, suit is ombred in a multi-colored floral print.

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Swimwear

Darlene, Inc., Introduces Silk Screen Prints On Full-Fashioned Swimwear

Hand screened prints on full-fashioned swimwear star in Darlene's new line of swim suits. This design technique is especially effective in floral patterns as demonstrated in a simple white maillot with scattered iolets covering the entire surface.

Suits which are knitted in the all-fashion technique are entirely shaped to contour of the body in the knitting process and preclude cut-and-sew method of garment assembly and the use of darts and tucks. Seams, kept to a minimum, are used simply to join front and back.

Yarns made of new fiber combinations offer interesting surfaces and textures, while angora, used in the past for sweaters alone, is now incorporated into Darlene's feature swim suit.

Angora Suit

Available in jade green, white or black, this fine gauge knitted suit is a sleek maillot featuring scoop neck and back. Tiny cap

sleeves and detachable velvet belt in contrasting color add interest. A lover of water, angora becomes more beautiful as the nap gradually thickens with use. A knitted-in elasticized frame helps to retain the original shape.

A New Yarn

Fiber news was also featured in Darnille, a new yarn constructed of looped nylon and covered rubber creating a velvety terrycloth effect, but with built-in assurance that the loops will not snag. One outstanding Darnille number has a large black and white checkerboard pattern, while another is seen in bright red with red and white stripes simulating a cucumber. Darnille straps are self-adjusting to fit the wearer's proportions and thus buttons are never necessary.

All suits in the collection are one-piece sheaths and maillots and come with very low and medium backs. The most sylph-like

is a very low back black maillot.

Intarsia Designs

Full-fashioned knitting also makes possible a set-in effect of deep V's, panels and bibs in contrasting colors. Often having an irregular border, these intarsias could not be created except in the all-in-one knit. Knit-in designs are also used as trims around edges of suits. One particularly interesting number is a black maillot with white diamonds around the top edge and continuing onto the straps.

Widely used in this year's line are stripes in narrow or varied widths in allover design or for special effects such as suggestion of a cucumber or belt.

Exotics Mark Sun Fashions Of Hawaii

In their all-encompassing resort-cruise line, Sun Fashions of Hawaii is incorporating many beautiful swim suits all of which are executed in cotton broadcloth with a sateen finish. High count woven cotton is the basic fabric of this line and is seen in a variety of exotic, colorful prints. Florals and batiks

predominate in unusual combinations of shades emanating from the red, blue and green families. But also applied to the prints are shades of gray, gold and purple.

Titles of these prints, which in themselves are vividly descriptive, are: royal hibiscus, rainbow hibiscus, silk tone hibiscus, Tahitian, tropicana, Fiji Tapa, peach blossom, Oriental batik, Hawaiian holiday, cho cho stripe and rainbow stripe.

Applying Prints

Prints are applied by the silk screening and roller printing methods, and Sun Fashions own the world wide exclusive on most of the designs.

Most popular silhouette is the one-piece sarong with elasticized side panels. There are also one-piece suits sporting the little boy leg and gathered or halter bra. A one-piece model is also seen in a long-line sheath.

Two-piece suits come in a variety of styles including the sarong front with gathered bra, and little boy leg with halter bra. Another is seen in a little boy leg trunk and spaghetti strap halter top.

(Continued on Page 35)

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Frog trims accent two suits. One, a one-piece little boy leg model has the frog closings at the leg, and the other, employs a frog front trim on the bodice and two pockets on the shorts.

R-M-R Dedicates Modern Plant

LOS ANGELES, Calif. — Consummating their move to new world headquarters in the San Fernando Valley, Rose Marie Reid, swimwear manufacturers, held ceremonies last week officially dedicating the new facility.

The modular design of the firm's new 150,000-square foot building features a harmonious blending of wood and glass with modern tilt-up exteriors, and is located on a special kind of industrial island in Van Nuys which takes advantage of its semi-residential setting to create a park-like atmosphere in landscaping.

Guests touring the facilities in connection with the dedication expressed interest in the indoor-outdoor concept which introduces glass-enclosed, interior

gardens into the office and factory areas. The spacious factory area and the extensive electronic data processing equipment expedite the work flow.

The centrally located pool and patio area was the setting for the brief dedication ceremonies conducted by the firm's president, Paul Habersfeld, and prefaced by Jack Kessler, chairman of the board.

Summarizing the firm's plans for its new facility, Habersfeld revealed that a work force of some 1,100 people will be recruited for the Valley location by mid-January, accounting for a payroll of approximately \$5,000,000. "We will gear for an initial season's production of 100,000 swim suits at the new plant" Habersfeld stated, "which will not tax our facilities to their potential."

A unique "ribbon cutting" climaxed the informal ceremonies when a model wearing the first swim suit produced at the new factory executed a graceful, christening dive into the pool, carrying golden scissors. While submerged, she severed a

(Continued on Page 78)

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Swimwear

Elon Of California's Line Is Nautical, Naughty And Nice

By MARIAN GUNTRUP

LOS ANGELES, Calif. — Three different approaches to swimwear fashion are used by designer John Weitz for Elon of California, accenting his "playsuit approach to swimwear." He has termed the groups Nautical, Naughty and Nice. The first group features a definitely sea-going look in styling and highlights red, white and blue color combinations in a range of fabrics.

Knits are seen in a pair of very simple, low-backed maillots, one in blue or red horizontal stripes on white, the other in red, white and blue horizontal stripes. Helene stretch knit is a standout in a tank-top suit in blue and white stripes with ankle-length pants. This unique suit comes in both one- and two-piece styles.

Woven Lastex is featured in a brilliant red one-piece maillot with white button trim reminiscent of sailor pants and in a one-piece maillot with a red and white striped knit dickey insert reflecting the influence of the French navy. Red and white or blue and white regatta stripes are shown on a satin Lastex maillot with a half-belt in the back.

A variation of the boy leg is noted in a red and white vertical striped cotton one-piece suit with tab shoulders, and in

a red and white striped cotton, also shown in a two-piece style coordinated with a red bosun's shirt with white striped trim. White Arnel twill trimmed with red and white striped satin is the fabric basis for a belted, one-piece boy-leg suit.

Brief two-piece styling, fake fur fabrics, and high-leg, low-back maillots are the theme of the Naughty part of the collection. Fake, high-pile green or purple leopard fabrics fashion one- and two-piece styles with high necks front and back. These are daringly slashed from the neckline tie to below the bustline.

White nylon and cotton stretch swimmable terry cloth is teamed with very brief, practically weightless maillots with high-cut legs and low-scooped tank tops.

Two suits sport the high-necked treatment to contrast with high thigh cuts on maillots.

One, a one-piece tweedy woven Lastex with a low back, buttons on the bustline; the other, silk-type cotton print, comes in a two-piece brief halter-neck suit with matching hooded beach cape.

Cotton prints included a leopard pattern printed on a cotton cord maillot, and a two-piece boy-leg abstract print topped by matching beach cape.

The Nice collection is characterized by playsuit styling, tailored toppers, removable short skirts, novelty fabrics such as flannel and chambray, and a "covered up" look.

Contrasting panels utilized in several suits in this group, such as two suits in broad all-around vertical contrasting panels in a maillot and a two-piece shorts-leg model, both with solid color piping. A one-piece Lastex maillot features a broad contrasting center panel and a one-piece Lastex sheath is highlighted by a broad contrasting band around the top and contrasting panels full-length down each side of the suit from under the arms.

Printed Lastex is used in a one-piece sheath with V-neck

and deep V back, a maillot with matching Bermuda length cotton shorts, and a plaid one-piece shirtmaker with covered-up front and back.

Solid pastel Lastex is unusual in a maillot with a high, inverted V top tipped with a huge button and tied around the throat with spaghetti straps. The top can be tucked in for sunning.

Arnel twill is employed to create a one-piece swim suit with high halter neck in front, deep V in back, and matching short tennis skirt, while denim-weight chambray is utilized in a two-piece blue-jean styling, the two pieces secured at the waistband by a broad, red swimmable belt.

A high-banded neckline front and back is seen in a one-piece cotton boy-leg suit with removable overskirt.

Mission Valley poplin is featured in a pair of suits—a two-piecer with high buttoned back and button detailing on bra front, the other a belted one-piece model with a high front and buttoned tabs in the back. Both come with matching wrap skirts.

Wide panels design the below conservative two-piece Lastex-content suit. Note the boy shorts and slightly raised waist on the trunks, and out-lining on the top section.



Details on the poplin two-piece suit above include a banded waist and boy shorts on the lower half. The halter bra is elasticized on the bottom and is held up by wide button-fastened straps.



Narrow horizontal stripes encircle this knitted maillot featuring scoop neck and very low back. Front seams add a design effect and softly shape the suit.

Center of interest on this sleek knitted maillot is the striped dickey running the full length from squared-off neckline to waist. High cut legs and plunging back complete the suit.



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from Caron
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John Caron*

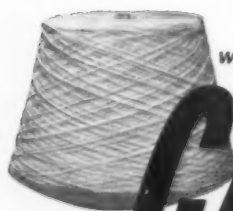


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Ladies' And Misses'

Knits Of Silk, Cotton And Wool Shown In Korrigan Lesur, Avagolf Collections

Silk, cotton and wool knits form the basis of collections by Korrigan Lesur of France and Avagolf of Italy. Korrigan Lesur is featuring pure Merino wool while Avagolf's creations are constructed primarily in pure silk.

Silhouette news is in the look of ease which does not necessarily connote the casual, although quite naturally the entire sportswear collection is along casual lines, and many daytime dresses follow suit. There is, however, a definite distinction between clothes for daytime or sportswear and those for after five, whether they be slacks or backless dress. For example, slacks and coordinating tops designed for at-home evening entertainment are anything but casual in styling and fabric construction. The dressier knits are along relaxed, carefree lines for comfortable wear and easy care, but do not begin to suggest casuality.

Interesting details are on solid color dresses having belts edged or striped in contrasting colors. Yoke interest is achieved through horizontal lines and button trim, and necklines are round, jewel, slightly raised, scoop and slash. The small bow is used extensively on belts, collars and yokes.

Variety In Sleeves

Raglan and full-fashioned sleeves predominate and range from tiny caps to bracelet length.

Skirts are straight or slightly eased, pleated and gathered. Many are topped with cardigan jackets and in some cases three-piece ensembles are made with the addition of a blouse including the tunic, middie or sleeveless overblouse.

Colors range in tone from shocking pink to dignified black and neutral browns, and beiges. New colors are a pinkish mauve known as mauvequartz and a

(Continued on Page 47)

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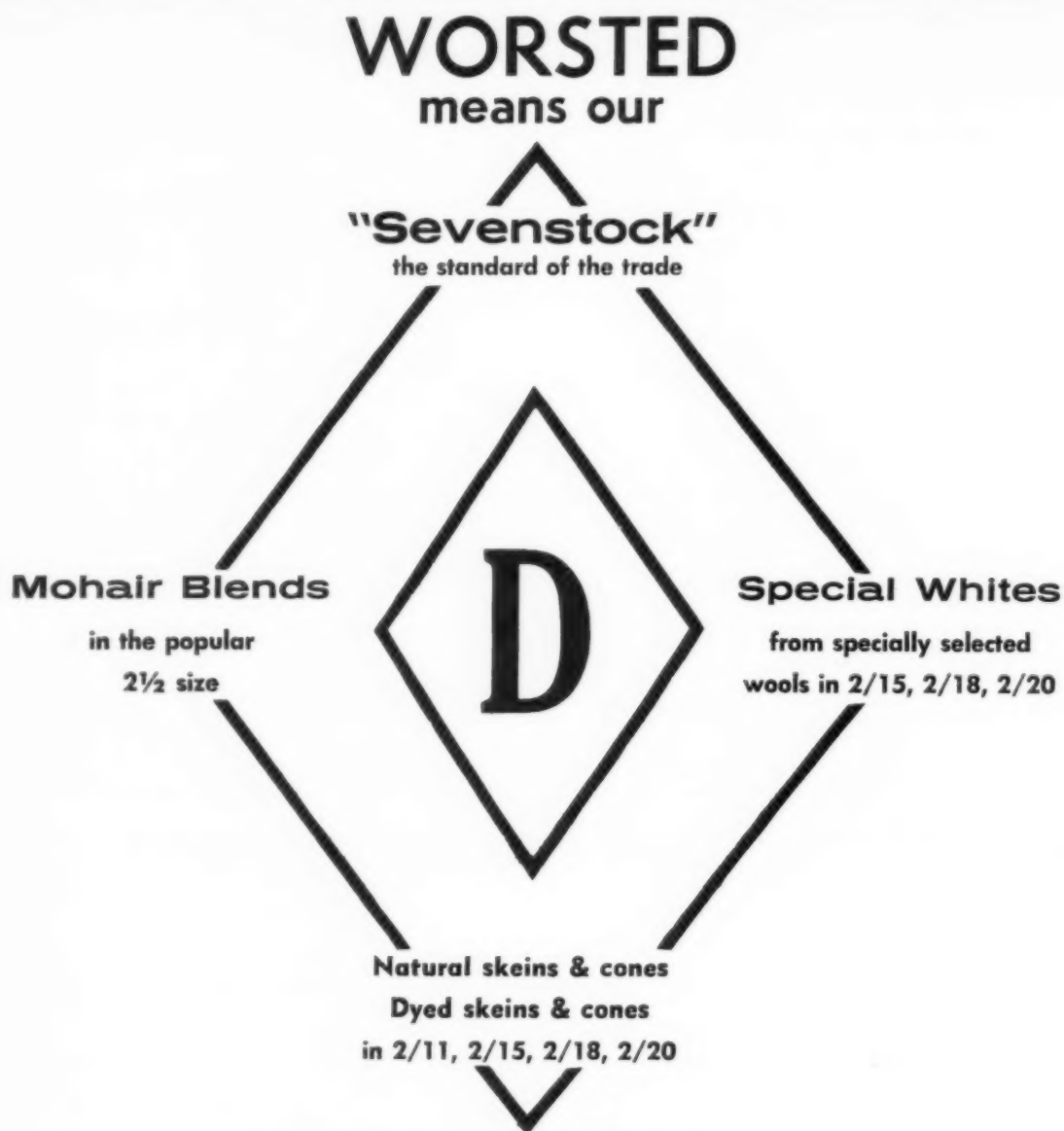


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grassy green called fines herbs. Blue is better represented than any other color in pale, bright and navy shadings.

Solids predominate though striped effects are used all over as well as for special touches.

Flat knits are seen in many of the creations, but new and varied textures are very important.

Textured Knits

An illusion of lace is knitted into Avagolf's silk emerald green top which features halo neckline, dropped shoulder and $\frac{3}{4}$ sleeve. This top is worn especially well with silk knit slacks.

Cotton is also textured to look like lace in a mandarin neck dress detailed with tiny bows running the length of the throat placket. The lacy knit is also incorporated into a tunic with side slashes worn over a bare bikini.

Textured silk knit is adaptable to all types of clothes in this collection, from slacks and coordinated tops to elegant after-five dresses. One of these is in mauvequartz silk and has a cardigan jacket and straight skirt.

Wool knit is seen in a nubbly

effect in a coral short sleeved dress ensembled with matching jacket. The dress is ribbed down the front and buttons run between the ribs.

Embroidery Effects

Special effects are created by tone-on-tone embroidery as well as contrasting embroidery in sound wave and sunburst patterns. A white cotton knitted top to be worn over shorts or slacks is banded in the sound-wave pattern and features a sunburst center motif. Tone-on-tone is to be found on many numbers including a shorts and sleeveless top outfit in blue by Avagolf; a silk on silk sheath with shallow neck and in a mauvequartz cardigan worn over a plain skirt. Another ensemble along this line is a turquoise silk cropped top, covered with all-over heavy silk embroidery worn with a plain matching pleated skirt. A very elegant at-home ensemble is a shocking pink silk knit tunic top over tapered slacks of the same material. The entire outfit is embroidered in pink silk.

Checkerboard knits also make news in a black and white silk
(Continued on Page 49)



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cardigan banded in black to match the skirt. Slacks of black and white checks with matching pullover trimmed in black further demonstrate the checked texture.

A dickie of contrasting color simulating a pullover, is knitted into a cardigan-like sweater. Trim on the "outer sweater" matches the dickie to create unbroken continuity. This trompe d'oeil sweater and matching skirt come in various color combinations including black with toast and red with navy.

The look of ease has been incorporated into one-piece dresses, coordinated skirts and sweaters and ensembles of jacketed skirts and dresses. Silk is primarily used in dressy and after-five outfits, though several of these have been executed in fine gauge knitted wool. Creating an after-five look in a wool dress is possible through the use of decollete necklines, V- or scoop-backs or nearly backless dresses, single or double shoulder straps and also tiny cap sleeves. Shirring on the bodice or neckline is flattering and adds a touch of elegance.

One-piece daytime dresses

are shown in wool as well as silk. Cool white wool with patch pockets just below the waist is cinched in a striped belt.

Attendance High; But Business Off At Buffalo Show

BUFFALO, N. Y.—Attendance was as good or better than last year, but business was sluggish at the holiday and early spring market of the Women's Apparel Club of New York.

Salesmen for knitted outerwear lines reported that spotty early fall retail business in the Buffalo area reduced fill-in buying at the market. However, they expect sales in the fourth quarter to run at least as strong as a year ago.

Unseasonably warm weather in September cut down sweater sales at the market, but knit dress sales were fairly brisk. Retailers wanted a better indication of fall business before making holiday commitments.

Swimwear for cruise and resort wear was selling but merchants were moving cautiously

(Continued on Page 51)

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Ladies' And Misses'**Buyers Shy Off Fancy Holiday Wear, Favor More Lasting Styles At Show**

PORTLAND, Ore.—This year's Holiday Market of the United Apparel Clubs of Oregon for the first time consolidated the showings of the Pacific Apparel Association, Portland Apparel Association and Rose City Apparel Association, a development that pleased exhibitors and compensated somewhat for disappointing business. It was felt that holding the event on the long Labor Day weekend kept attendance down. A market held somewhat earlier in Seattle was reported to have been very successful.

Sales representatives from California prefer the end of the week for a market but those from Oregon or Washington prefer the beginning. A compromise is expected.

Holiday buyers turned away from the fancy merchandise and chose apparel that can be used beyond the holidays.

In knitwear, novelty and informality were offered for the young wearer.

Texture appeared in a great variety, including cut pile fabrics; long and shaggy nap, sometimes brightly colored; shorter, (Continued on Page 53)

Attendance Is High At Show In Buffalo

(Continued from Page 49)
and selecting more carefully than in previous years.

As is usual in markets, some salesmen were busy, others were idle most of the time.

Some retailers were making limited purchases for spring, but most stuck to holiday buying. Their plans indicated to promote sweaters of many fabrics, styles, colors and patterns. Brisk back-to-college and career girl sales in sweaters during late August and early September pleased them.

The slow start in fall business has not dampened hopes. A sharp pickup is expected when cooler weather sets in.

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more subdued velour types, and fake fur.

The color range was wide. The purple and lilac shades were, as expected, very popular in nearly all lines. The very light pastels were less noticeable this year than last.

Novelties were in demand, said Vin Vaughn, representing Tee Tops Sportswear. The retail customers were mainly college girls and the young housewives who like to wear sportswear around the house.

A group of cotton knit coordinates in a lilac-and-white Paisley pattern moved well in this line. A selection of tops was offered, with pants or skirt, but the pants outsold the skirts.

Hooded tops and various clipped, textured fabrics like Orlon "plushies" enjoyed much favor with children. Another live item was the "knee-tickler" in cotton knit—full, pleated skirts reaching just above the knee.

"Swiss velours" of Orlon, for sports or lounging, were highly regarded. Pants were coordinated with a choice of tops, including a bateau neck and one with a collar and open V-placket effect.

High schoolers are going for the striped and hooded tops, college girls for solid colors, Mr. Vaughn said. "Lavender shades are excellent. Your burnt orange or coral is coming up strong too for the cruise wear season."

Novelties also were featured by Le-Roy Knitwear of Los Angeles and Sport-Time of California represented by Phil and Helen Codell.

Big cowl necks are very popular with the college girl, the Codells said. Horizontal stripes were favored in the cowl styles, vertical stripes were in the button models and conventional slipovers. Both high school and college girls like the crew neck.

Le-Roy Knitwear is said to have been first to make the very bulky, wide-striped Monster sweater, which were introduced at the University of California. It is still popular, made up in the colors of various schools.

Fake fur was a big item for the Codells. A popular jacket of simulated leopard with curving notched collar and band in black was moving into leading stores in Portland and Seattle.

(Continued on Page 55)

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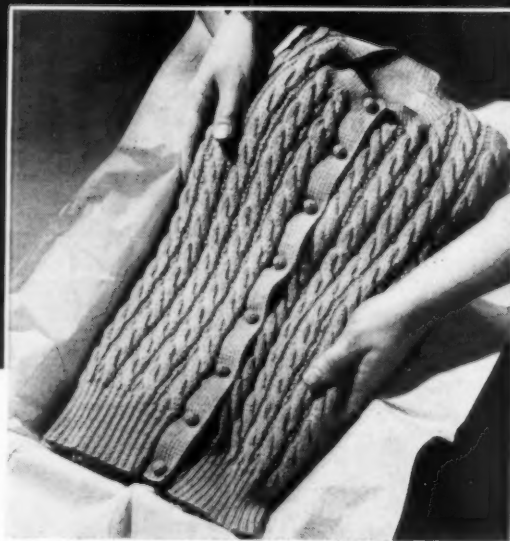
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So were Le-Roy's jersey culottes.

Sentiment for wool and synthetics, mostly Orlon, in sweaters, seemed equally divided. Buyer decision was based mainly on price, Mr. Codell said.

White, as always, was their biggest seller for the holidays. Other popular shades were purple, sage green, gold, starlight blue and beige. Black was a favorite in turtleneck styles for its beatnik look, and in a bulky cardigan with a good-sized collar. Both white and black are wanted in bulkies.

Sport-Time of California offered a number of items in various fake furs with pile of acrylic fiber or rayon on cotton knit backing, which were selling well. An outstanding number was a fabric featuring black spots spaced out over a white background.

Novelties in George Koretz's Alex Colman and Colebrook Knitting Mills lines included a long beatnik look sweater in a shaker stitch and Orlon shaker knit slipovers with long sleeves and boat neck.

Mr. Koretz said fur blends

were coming back stronger than ever. Fur blend intarsias were offered in ceramic blue, pima gold, eucalyptus green, horizon blue, strato gold, comet green, a beigetone white, and black. The same colors were offered in Angora, which had been strong for back-to-school trade. At that time, Koretz said, sales were divided about equally between Angoras and fur blends but at the holiday market, the ratio was running about 4 to 1 in favor of the wool, rabbit and nylon fur blends.

Small Line Of Sweaters

An interesting newcomer which appeared successful, was the small, but selective line of sweaters with matching skirts in sizes 42 to 48, for Peg Palmer Co., shown by Ernie Bryan. Lilac, white and blue ran one-two-three.

All the sweaters in this outsize group were cardigans in Orlon, including a popcorn-type stitch, in a collared style and collarless version; two other styles with collars—one in a conventional stitch, the other in a wavy, textured pattern; and

(Continued on Page 57)

Ladies' Ski Sweater




Ski slopes will be brighter for this bulky sweater's presence. The wide collar effect becomes a hood. Both hood and matching wide cable stitching which marches in twin lines down the sweater front are contrasted to the unusual knit which comprises the sweater body.



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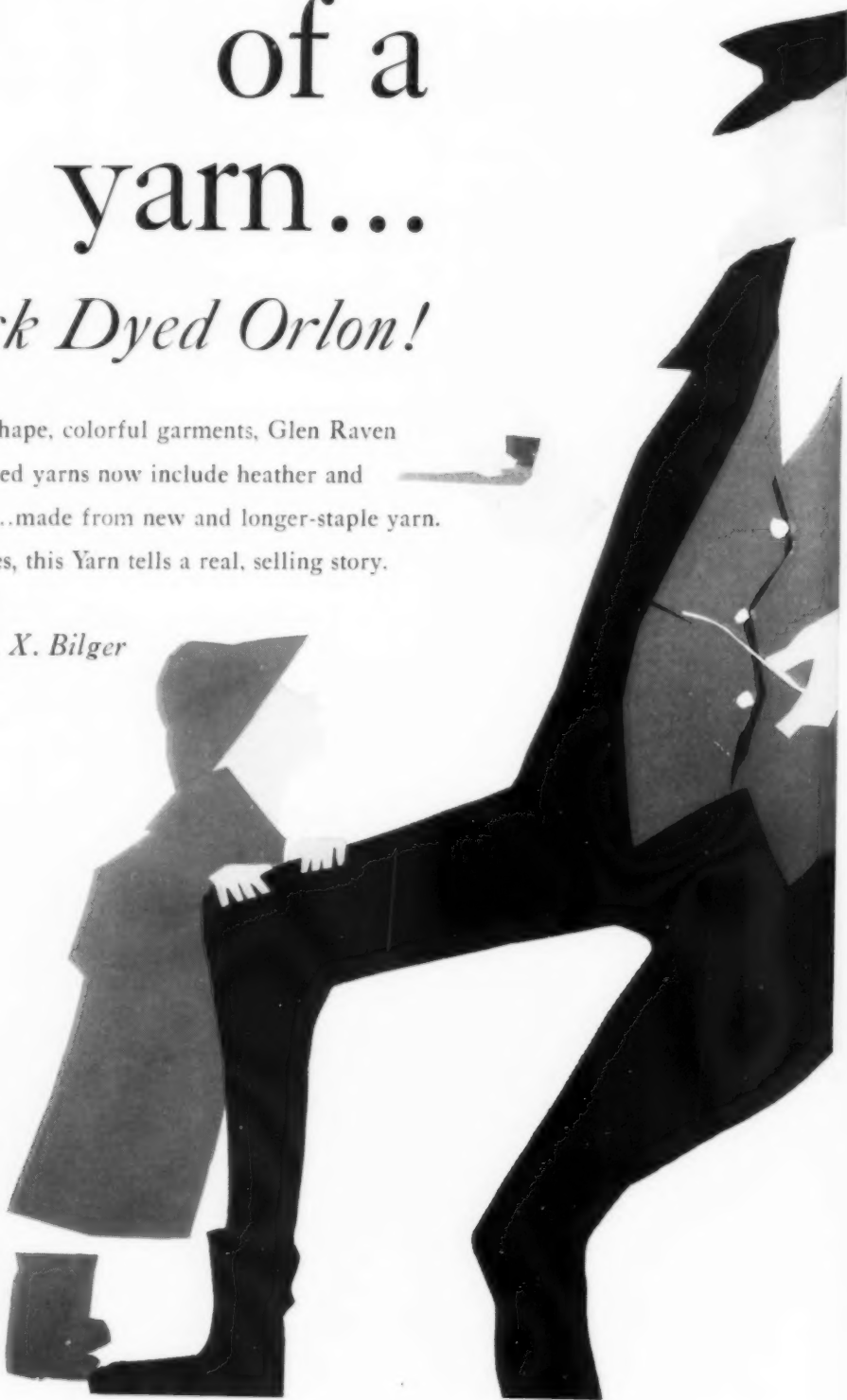
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Sophisticated and dressy styles, made to measure, were displayed by Mary and Earl Woodward for Caledonia Knits made by Morgan Clan Knitting Mills of Newark. Prices ranged from \$80 to \$395 retail. These sell not only in the larger cities, but also to better stores in the smaller cities.

Ribbon knits were used for a number of styles—for instance, silk ribbon on Irish linen and an Orlon cantreze with a scoop neck and bolero jacket. Another popular style had a bertha collar.

A black cocktail dress in Orlon cantreze, subtle yet striking, had an unusual pattern of lines of ribbing meeting on the diagonal. This kind of gown was particularly well-liked in the fashionable San Francisco Bay area, Mr. Woodward said.

R. C. Ambes reported fine response for foam in interlined shaker knit jackets in his Fritz of California line. Retailing at \$14.95 and \$16.95, these were laminated to a foam rubber backing and lined with rayon satin. Shades included loden, beige, bronze and off-white.



Ski slope styles salute simplicity without sacrificing warmth in these latest offerings by White Stag. At left this "Slope-Checker" model highlights a reversible wool knit parka with zipper front. In the center the "Weather-neck" sweater repeats a favored style in a ribbed fabric with zipper front and contrasting border trim. The "High Crew" pullover at right is constructed of Exlan acrylic in a boldly ribbed design.

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Ladies' And Misses'

Lacy Effects, Boucles And Pebbly Tweeds Prominent In Haymaker Knits

In addition to their standard collection of woven cotton clothing, Haymaker is featuring a variety of cotton and Arnel jersey knits in both their sportswear and dress collection for 1961.

The knitted dresses come in one- and two-piece versions, and are quite adaptable to a variety of occasions. Colors are bright and many are brought together for vivid new combinations, but conventional favorites are also to be seen. Interesting textured effects are evident in the dresses although Italian flat surfaces are also being shown. Lacy knit, boucle and tweed are some of the popular constructions.

Lace-Like Knits

Lacy effects are achieved in many cotton knits giving them a very elegant air. Bright green is the color of a sheath which is slightly bloused in the bodice to add a very feminine look. A small bow on the stand-away collar of another sheath provides

the only detail on this yellow lacy knit. A striped effect is also possible in the openwork of a linen and cotton construction. Alternate rows of contrasting stitches created after-five elegance in a new shade called oatmeal.

The Haymaker knits also have a tweedy look. A two-piece sheath of finely striped black and white ribbing covered entirely with white pebbles creates a nubby effect. A coordinating jacket incorporates the material of the dress into bold stripes that alternate with red and white stripes of a flat surface.

Fine rows of cable stitch cover the flat surface of a not-so-drab olive green sheath creating a bas relief effect. The dress has a V-neck and scoop back.

Arnel Group

Flat surfaces are seen in a small check black and white sheath of cotton knit. This dress is highlighted by wide lapels and a doublebreasted front.

Arnel jersey is used quite extensively in dresses and sportswear. The fabric falls beautifully in full or pleated skirts, but it is also seen in sheath styling. A band of green and purple horizontal stripes on white background coordinated a pleated skirt and matching blouse.

The ensemble is featured in many styles, one of which is a navy blue sleeveless sheath in flat cotton knit, ensembled by cardigan jacket. Both pieces are trimmed in white. The cardigan and Chanel jacket are prominent atop many dresses and skirts. Another ensemble is formed with a tunic jacket over a beige cotton jersey sheath. The tunic silhouette is quite popular and is in evidence in many numbers.

Most of the knits are in solids and stripes, but several unusual prints are worthy of mention. One is a swirl paisley print in luggage color on off-white. It is perfectly plain except for soft gathering at the neckline.

Another printed knit comes in an all-over pattern in shades of gold. This dress features notched collar and an elongated tie of the same material.

Cotton is also being used in boucle knits imparting rich and interesting surface texture. One boucle is white with navy blue trim on the collar. A beige cotton boucle knit shirt dress is detailed by one large button at the neck and interesting horizontal yoke detail. An all-over black splash dot designs a white boucle cotton knit.

Sportswear shown includes bright pink cotton knit tapers that cling tightly to the leg and are fully lined. A pair of Helanca stretch slacks are so narrow at the ankles that a zipper closing at the foot must be used.

In cotton knit, many slacks are seen in stripe and solid effects with tops ranging from the bare midriff to the tunic. Blouses of horizontal stripes over vertically striped pants create contrasts with a definite continuity.

Over pants not matched by coordinating tops are many Arnel knit sweaters with full-fashioned sleeves and round and high, squared off necklines.

The great increase of knitted garments in the Haymaker collection is a strong indication of their increasing popularity and versatility.

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Wool

Urges Big Effort To End Tangles In Wool Industry

PHILADELPHIA, Pa.—The wool industry and the textile industry in general should forget its pessimism and seek to advance by more effective promotion and research and other means, a leading textile educator said here.

Bertrand W. Hayward, president of the Philadelphia Textile Institute, told the Philadelphia Wool and Textile Association that "the textile industry can't be given away either regionally or nationally without serious detriment to our whole economy. . . . This is more clearly a fact than the pretty words of the theoreticians who do not check primary sources for their ideas but depend upon the current approved clichés in their tight academic circles." Mr. Hayward referred to "academicians' theories" against protection.

He urged the industry to put more effort into promotion, to

give out better career information, and to work to develop "all of textiles" because of the interdependence of all parts of the industry.

The industry ought to seek "tariff protection as necessary because the industry is essential to our economy," he said. "Tax relief through more realistic depreciation should be secured immediately and every legitimate pressure should be employed."

If a preferred fiber wool is preferred in apparel and military clothing loses its markets, "it would have to be questioned as to how it was promoted and handled," he said. There is not enough research being conducted in the wool industry, he added.

The meeting was an observance of the bi-centennial of the American wool industry and National Wool Month. Earlier, Pennsylvania Governor David Lawrence and Philadelphia's Deputy Commerce Director Paul Hartenstein presented certificates marking the observance to Miss Patti Jo Shaw, who is Miss Wool.

I. J. Horstmann, 2nd, of I. J. Horstmann Sons Co., president of the local association, said

various wool trade associations will ask the Democratic and Republican presidential candidates to state their position on imports and the textile industry in general.

Richard J. Goodrich, president of the Boston Wool Trade Association, noted the dependence of this country on wool and states that in the first six months of 1960, 43,700,000 square yards have been imported into this country, an increase of 31 percent over the same period in 1959.

Among the guests were Dr. Edward Shils, executive secretary of the Knitted Outerwear Manufacturers Association, Pennsylvania District and Ingram Bergman, Bergman Knitting Mills.

Trends In Consumption Of Apparel Grade Wools

(Continued from Page 7)

with a recession in textile demand because there are fewer concerns, more efficient plants and equipment and a more scientific approach to inventory control. However, tighter inventory control at the retail level,

also, is probably a contributing factor to the current decline in textile activity.

Available statistics of consumer clothing demand suggest that the sporadic retail ordering of recent weeks is influenced more by uncertainty about the business outlook than actual retail sales. Consumer expenditures for non-durable goods and services are holding up fairly well against a decline in demand for durable goods of all kinds—a phenomenon frequently observed in the early stages of United States recessions of the past. Consumer clothing expenditures for seven months of 1960 were actually four percent ahead of the corresponding year-ago rate—seven percent ahead for men's and boys' clothing and two percent ahead for women's and children's clothing. Since the consumer apparel price index rose by less than two percent between July 1959 and July 1960, unit sale must have advanced over the period. Nevertheless, at the end of July, department store stock-sales ratios were on the high side of

(Continued on Page 63)



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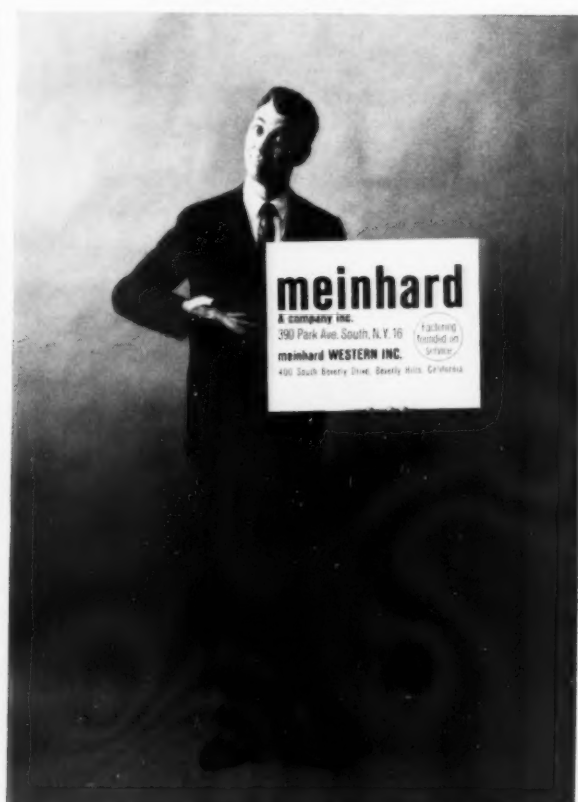
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recent years in all clothing and sportswear departments, except men's clothing. This explains the much better record of production of men's clothing than of women's clothing during January-July this year compared with a year ago.

Interim statistics do not permit a comprehensive appraisal of wool's share of the clothing market. In two items for which fiber/fabric details are reported—men's summer weight suits and separate trousers—the production of wool items increased somewhat less than that of other fabric items. However, the difference between the two increases was not enough to reduce wool's share in either item by more than one percentage point for the 1959 period.

Price Changes Affect U.S. Use Of Cashmere

(Continued from Page 9)

endeavoring to attract the consumer of moderate means. Our ability to do so hinges upon a reduction in the price of the raw fiber itself. We are hoping that our suppliers will cooperate this time. On the one hand, this

will permit us to sell more cashmere sweaters. On the other hand, the suppliers will be able to sell their raw material on a steady basis, without risking the possibility of losses because of decreased demand. The United States is by far the biggest importer of this raw material and therefore the suppliers should be interested in maintaining a high level of consumption here, as it means a great amount of dollar exchange for them. The European market is not such a good outlet for their product.

Since there is enough cashmere now in this country to cover all requirements for the 1961 season as it now shapes up, no fiber shortage is expected. There will be no danger, therefore, that the demand will outstrip supply and thus force prices up. If the yarn price for the best natural white cashmere can be maintained, the consumption of cashmere will undoubtedly remain at its present, somewhat circumscribed level. If, however, the yarn price can be reduced—which, of course, can only be accomplished if there is a reduction in the price

(Continued on Page 65)

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In high style favor today are bulky knit sweaters of wool and specialty yarns, featuring Monk's collars and hip-hugging lengths.

You are fortunate if the yarns for your bulky knits have been dyed by Nicetown. Nicetown's 50 years of experience in dyeing wool, worsted, furlends, cashmere and Angora yarns; its modern equipment; and its skilled personnel, will impart to your sweaters a loft, elasticity, resilience, and lively colors that will make themselves felt in increased sales of your line.

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of the raw fiber—then there will be much greater incentive for increased buying by the stores. We can then foresee the use of cashmere on a much larger scale in 1961.

The unique properties of cashmere have long been recognized. Cashmere processing, spinning and knitting have made such progress in the United States over the past few years that the stores know if they buy cashmere sweaters from reputable manufacturers, they are getting garments of excellent style and quality, better than anything produced elsewhere. The American public recognizes the superiority of cashmere over products which attempt to simulate its characteristics. Let us hope, therefore, that the suppliers who hold the key to our problems will finally exhibit more understanding of their nature and will cooperate with us by reducing raw stock prices and then maintaining them at a steady level. Stability of the price structure on an attractive basis will permit large scale promotion of cashmere products in this country. We hope that 1961 will be

the year for this constructive action.

Analysis Of Trends In Furs And Fibers

(Continued from Page 9)

\$1.10 to present greasy levels of 71½ cents.

While mohair is pretty much of a year 'round fiber and lamb's wool is considered a staple, the second and third quarters are busy periods for alpaca on Summer Street and prices change from week to week. Charcoals and fawns are most popular with the knitting industry and prevailing prices at the moment are \$1.75-\$1.80 for #1 white, \$1.20 for black and \$1.50 for light fawn. Alpaca and furs are more active than Shetland just now and this is one of the few fibers not in stock at the present time although the price range is estimated around \$1.75 and \$2.

Vicuna is not usually carried in inventory although this firm has sources when there is a call. Icelandic wool is now sold

(Continued on Page 67)



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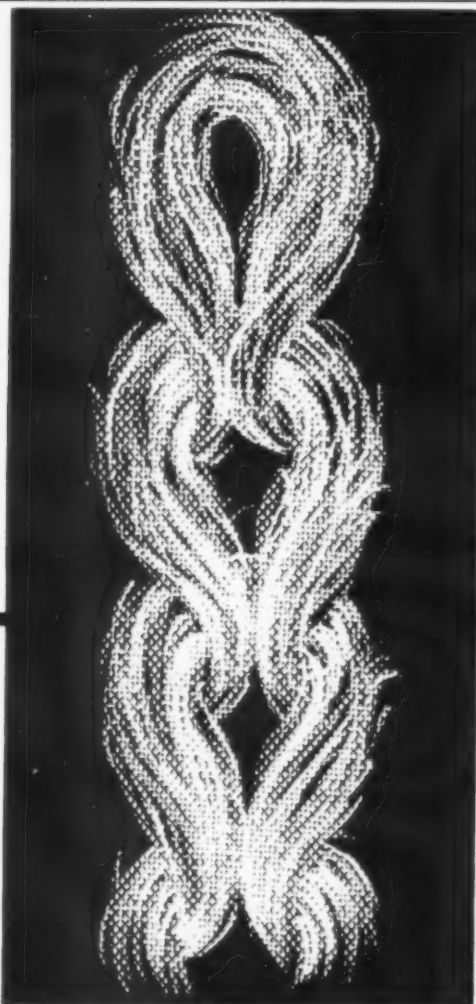
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The pace of synthetic yarn progress continues with unabated progress and achievement. Our Special Issue will give technical expression to the technological developments which have been streaming out of the laboratories of the fiber and yarn suppliers, and will relate these developments to knit goods manufacturing, processing and styling.

Because this annual issue will contain more information on new yarn spinning and throwing techniques, end-use applications and processing procedures than has ever before been published in a single volume, our edition actually will be an "Encyclopedia of Synthetic Information."

If you're a fiber supplier, yarn spinner, processor or in any other way related to the synthetic industry, your representation in our "Synthetic Yarn Review" is a "must."

Guarantee your identification with the knitted outerwear industry by scheduling a dominant promotional or institutional advertising message in it. Call, write or wire for full details.

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Deadline for copy and/or plates,
October 28, 1960

Knitted Outerwear Times

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MURRAY HILL 3-7520

through a Federation acting as an agent for that country and is valued from \$1.15 to \$1.40. Kempy, high finishing Welsh Mountain wool is kept in stock for weavers, however, and is now priced from \$1.50 to \$1.75 for top grades to \$1.15-\$1.20 in the inferior lots.

Politics And Duties

The political situation and duty difficulties have been obstacles in picking up some lots of rare fibers and this is reflected in prices. Camel hair and cashmere are particularly affected. Camel hair, relatively slow moving, is, however, used in sizeable quantities by one mill hereabouts and prices now range from \$1.35 for Mongolian types to \$3 for number 1 grades.

Interest In Lamb's Wool

During the past three or four years, knitters have shown increasing interest in lamb's wool and Australian types with more softness and no black is preferred. Real good scoured fine Australian is valued at \$1.30 as against \$1.10 for domestic offerings. Mr. Forte said that the trend among knitting interests is

away from the fancier types in favor of garnetted assortments. Random garnetted stocks totaling up to pastel shades are quoted around eighty cents with medium oxford offered around ninety cents. The current asking price for Australian broken top is \$1.55 with bleached white selling at \$1.10.

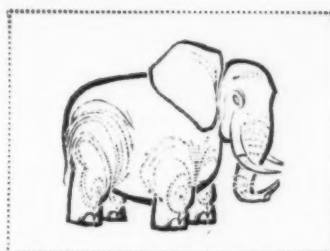
Representative Prices

Representative prices of types of mohair most likely to be of interest to knitters are as follows: Kid 40s, \$3.40; kid 32s, \$2.85; adult 28s, \$1.95 and adult 24s, \$1.45.

Sewing Machine Official Dead In Plane Crash

Henry P. King, secretary of the American Safety Table Co., Reading, Pa., was killed in the crash of the Eastern Air Lines Electra plane in Boston Harbor October 4. Justin J. Baumann, treasurer of the company, suffered multiple fractures of both legs and a fractured jaw.

Both were returning via Philadelphia to their homes in Reading, Pa., from a sales conference of sewing-machine executives.



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Infants' And Children's Wear

Plums Rich And Ripe This Season At Knickerbocker Holiday Showcase

By ALAN SIEGLER

Knitwear coordinates in solid colors and stripes, more subtle than in previous years, were the fastest selling numbers at the annual Knickerbocker Showcase of infants' and children's wear. Ski sweaters and knitted swimwear in all sizes were in demand at the Huntingdon Mills, Inc. exhibit, represented by Jack Stein.

The promotion built around the singer Fabian was selling many sweaters in the line, particularly the brushed tow-dyed Orlon that the company specializes in. High V-necks and shawl collars were popular.

The leading colors for boys were commander blue, straw, gold and moss green and for girls, cobalt blue, lilac and butterball.

The plums and lilacs, which were doing well in almost all the exhibits, also were strong at Huntingdon.

There were early season calls for the knitted swim suits in the line.

Randy Knitwear found big demand for its knit T-shirts and coordinates for girls. The pants were corduroy or velvet, keyed around four colors—pur-

ple, taffy, white and green.

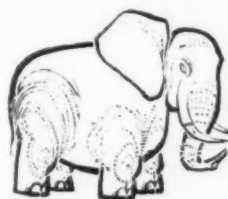
Stripes and solid colors were moving. The poncho top was noticeably in demand.

Among the leading coordinates were a tasselled top with corduroy pants in matching colors, lilac or green stripes with pants to match, a striped top with pom-pom, and a Christmas Box shirt with ribbon and bows in lilac or green running horizontally over a white background with lilac velvet pants to match.

Randy coordinates were priced at \$4.98 and \$5.98 retail, and, with velvet instead of corduroy pants, at \$7.98 and \$8.98.

H. Rosenstock & Sons was pushing its matching Bedford cord cotton knits for spring and finding enthusiastic response for

(Continued on Page 71)



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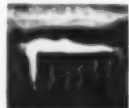
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BUT UNRELAXED



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a boy's gold shirt with fashioned-collar and placket and bronze buttons emblazoned with cornets. The buttons appeared throughout the line with various emblems.

Other popular shirts were an olive check with placket in brown and green and a gold and white with a collar trimmed in gold.

M. Berman & Sons found lilac, blue, plum and — as in previous years—red to be the big colors in its girl's skirt and blouse coordinates. The company sells its machine washable knits at \$5.98 to \$9.98 retail. One outstanding number was the pleated blue skirt teamed with a white top with triangles of matching blue.

Boy's long sleeve knit polo and slack sets in sizes 2 to 8 were selling at Landsman & Katz, Inc. Fashion knits, club necks and shawl collars in olive, gold, charcoal and red were popular.

The quality look for the low price—\$2.98 a set—was the attraction for buyers. Among the best sellers were an olive and gold striped shirt with Italian knit collar in gold with olive underside and V-stripe two-button placket, and a gray, red and charcoal striped with reversible shawl collar.

Sacony, Inc. coordinates were mostly of Merino wool and included a striped short-waist jacket of blast pink with a double row of buttons and long sleeves, matched with a pleated skirt. An Orlon top with a strawberry print on a dotted red and white background was doing very well. Red was again a favorite. Plum was coming up fast.

Berkshire Sportswear, selling its better grade children's wear, reported good business for its girls' cotton knits. A leopard two-piece with turtle neck and patch pockets over matching slacks tapered to the ankle was very popular.

Havenshire Knitwear Co., Inc., featured olive, gold and loden for boys. A five-button cardigan had green, white and black stripes in an irregular pattern. Surface texture was bold on many of the sweaters. The high-V, boat neck and some shawl collars were prominent. Many of the designs emphasized the V-neck by stripes or stitching.

Finishes

Courtaulds Issues Wash-Wear Finish For Rayon, Cotton

A permanent, non-resin, wash-wear finish designed to make rayon and rayon-cotton blend fabrics competitive with other wash-and-wear fabrics was announced today by Courtaulds, Inc.

The finish, Prestwick, has been applied commercially only to spun rayons, but extensive trials suggest it will be effective on cotton, continuous filament rayon, cellulose and blends of cellulose and thermoplastic fibers.

The company says Prestwick has outstanding dimensional stability on both rayon and cotton fabrics. For the first time, fabrics treated with Prestwick may be shrunk compressively to a residual shrinkage of less than one percent in both length and width as tested by the U. S. standard cotton wash-and-wear test procedure.

The finish has withstood fifty complete cycles of automatic laundering by the company.

The Prestwick process permanently modifies the cellulose fibers to which it is applied so that, crease recovery, wash-and-wear properties and dimensional stability are maintained for the life of the garment regardless of the kind or amount of washing, the company says. The finish is said to have chlorine retention.

Courtaulds will license the process for both rayon and cotton, and permit the use of the trademark "Prestwick" on fabrics conforming to the company's quality standards. The fabrics will be extensively advertised in the trade and supported by hangtags.

United Merchants & Manufacturers, the first licensee of Prestwick, since May has successfully processed over one million yards of spun rayon fabrics. Trials are in progress with United Merchants and a number of other finishers on rayon and cotton fabrics.

Edwin Berliner, formerly with United Merchants, will join Courtaulds within the next month to coordinate the Prestwick licensing program.



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Your entire success of Orlon Sayelle sweater production depends greatly on the skills of your dyer. We, at Dyecraftsmen, have mastered all the problems of dyeing these elegant new yarns . . . so that the colors are exactly in the wanted shades . . . so that they retain their resiliency . . . their high loft.

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WORSTED YARNS PACKAGE -DYED BY GLOBE

... faithfully capture the most subtle of color conceptions created by leading fabric and garment stylists. A new dimension in color beauty and elegance is assured your creations when you specify worsted yarns packaged-dyed by Globe.

Globe does package dyeing on tubes, skein and warp dyeing, warp bleaching and sizing.

Yarns processed include cotton, worsted, linen, blend and novelty yarns, and all synthetics—including Arnel®, Creslan®, Orlon®, and Zefran®.

4500 Worth Street
Philadelphia 24, Pa.

1865



1960

True Electronic Unit Perfected

(Continued from Page 29)

ing attached to an extension of the rear end of the cambox. The two radiussed ends of the loops pass over pulleys at each end of the machine, these pulleys being an integral part of a servomotor gear box unit bolted to the back of the frame. The belt pulley is mounted on two substantial ball races capable of eccentric adjustment for setting the gear mesh. These bearings have to withstand the radial load imposed upon them by the static tension in the steel belts in addition to that resulting from the acceleration and deceleration forces. A slipping clutch is provided for emergency purposes and comes into action only if the cambox is positively stopped by some accident. All gears are enclosed either by covers or seals and lubrication can be done by grease gun.

Each gear box has two motors and one of these carries a tachogenerator mounted avially and driven directly from the motor shaft. The purpose of the tachogenerator is to feed back to the cambox speed controller information about the actual speed of the cambox. This is continuously compared with the programmed speed and the cambox is automatically accelerated or retarded accordingly. A forced air cooling system is provided, consisting of an internally-mounted commercial type of blower feeding air to the motors on both gear boxes. The air is sucked axially through the motors from the commutator end. Mechanical and electrical stops are fitted at each end of the machine for emergency purposes only.

Any of the eight yarn carriers can be selected in any order and those not selected, or not in action during loop transfer, are retained at the ends of the needlebeds. Since the yarn carriers necessarily work in sympathy with the cambox, they are controlled by the cambox controller mechanism. A safety circuit is incorporated to ensure that the carriers have been correctly selected before the cambox starts its traverse.

Two traverses of the cambox are required to transfer loops

from one bed to the other. The first traverse selects and sets up the needles; the second traverse carries out the actual transfer. Between the two traverses, the back bed is racked over a half a needle space. The left-hand cam system transfers from front to back in moving from left to right and back; the right-hand cam system transfers from back to front in moving from right to left and back. Transferring can be effected on any combination of needles or on a whole bed at a time.

The needles are selected and set up by the electro-magnetic selectors described above. When the complete transfer action has taken place, the transfer cams are returned to their normal positions and the beds racked back to their original places.

Racking takes place on all eight Tailor-Knitting Machines simultaneously, over ± 12 needle spaces on either side of a central position in steps of 1, 2 or 3 needle spaces. A safety device prevents over-racking. The racked position is maintained until fresh instructions are given, which may be many courses later, and the mechanism automatically checks that the racking instructions are correctly carried out. An electro-magnetic clamp locks the beds in their relative positions at all times except when racking is taking place.

The take-up requirements of the machine differ from those of orthodox flat bed machines in that varying take-down speeds may be needed across the knitting width. For instance, it may be required to hold a large batch of needles while adjacent ones are knitting, which makes it impracticable to provide constant take-down pull across the full knitting width. This problem has been solved by providing two long shafts extending across the full bed width, each shaft carrying a number of star wheels made of solid nylon and frictionally mounted so that they grip until a known torque figure is reached, alternating with similar wheels freely mounted. As the radius of the wheels is a constant, this slipping torque determines the take-down tension. The wheels face each other in staggered relationship so that

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Time Taken To Knit An Average Size Dress On The MacQueen Tailor-Knitting Machine

ON a machine with 10 needles per inch in each bed, and with an average knitting 'quality' of 30 courses per inch, the total number of courses in a woman's dress would be 3,000. Since the cambox knits two courses at a time, the number of traverses of the cambox would be 1,500. The total time taken for an average traverse and dwell of the cambox is 2.050 seconds, and the total time taken to knit such a dress would therefore be:

$$\frac{2.050 \times 1500}{60} = 51.25 \text{ minutes.}$$

Thus, a set of eight 'slave' machines producing identical garments would knit eight dresses in 51.25 minutes, or **one dress every 6.48 minutes.**

The calculation of the time taken per average dwell and traverse of the cambox is based on the following data. The length of dress for the average woman 5'3" high is 42 inches, including a 2-inch hem. This figure is based on British and American consumer surveys. The MacQueen technique saves 35 per cent of the full traverse width of the garment since the cambox traverses only the actual knitting width in each course. The average cambox traverse for the dress in question would therefore be:

$$\frac{42 \times (100 - 35)}{100} = 27.30 \text{ inches.}$$

The overshoot of the cambox adds the width of the cambox (10 inches) to every two courses knitted. Therefore the total width of traverse per course is $27.30 + \frac{10}{2} = 32.30$ inches.

The mean linear speed of the cambox is 135 feet per minute, and the cambox traverse of the average course is 32.30 inches would take:

$$\frac{32.30 \times 60}{12 \times 35} = 1.200 \text{ seconds.}$$

To this must be added an acceleration and deceleration time constant of 0.350 seconds per traverse, together with a dwell time at the end of each traverse of 0.500 seconds, which includes the static operation cycle of 0.450 seconds. The total time taken per average dwell and traverse of the cambox is therefore 2.050 seconds.

at any position one of the idler wheels is mounted opposite a pair of the friction wheels. The shafts are continually rotated at a suitable speed, except during the two traverses required for loop transfer, when the take-down pull is suspended.

Take-Up Action

The fabric passes between the two opposing rows of star wheels and is pulled down until no further take-up is possible, after which the wheels slip on the shafts. When stitches are held, the wheels slip continuously at that part until the knitting begins again.

Staggered Arrangement

The staggered arrangement permits any thickness of fabric to be accommodated without adjustment of the take-down mechanism.

Labor Relations

Wage Increases Granted To Dyeing Plant Workers

PHILADELPHIA, Pa.—Some 1,850 employees, workers at 17 local textile and dyeing and finishing plants, get wage boosts ranging up to 12½ cents per hour in new one-year contracts negotiated with the Textile Workers Union of America, effective immediately.

The firms are: Anchor Dye Co.; Franklin Process Co.; Orinoka Dye Co.; Hellwig Dyeing Co.; Frankford Woolen Co.; Textile Service Co.; Caledonia Dye Co.; Electric Dye Co.; Philadelphia Dye Works; Dan Waters; Brehm & Stehle; Hulton Dye Co.; Nicetown Dye Co.; Peerless Dye Co.; Fine Arts Lace Co.; Atlas Fabric Co.; Chesterman-Leeland Corp.

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Knitwear Abroad

British Knitwear Makers Broaden Use Of Synthetic Fibers, Blends

GLASGOW, Scotland (Via Scottish Amalgamated Trade News Agency)—The expansion in use of synthetics in the knitwear field in Britain is indicated in this year's showings. On the present basis it is clear that the man-made fibers have received acceptance and that a greater share of the market is likely with each succeeding year. The main direction of development would seem to be the most effective blending of fibers, the evolution of techniques to make the fullest use of what is available and the exploitation of the particular features of the synthetics.

It is a safe argument that there is already a sufficiency of man-made fibers available from which to select; manufacturers argue that there are too many; to test all and every one, and to test all the blends, is a long and difficult job. Manufacturers themselves have done a great deal of this pioneer work and have been seeking support in terms of use and, in other cases, merely experimental use.

In many cases, the Scottish houses have been slow to move; have regarded man-made fibers as a breach of their tradition. English firms have been more ready to use synthetic fibers, and now Scottish knitwear firms too are coming round to their use.

The manufacturing capacity of the main man-made fibers industry continues to expand. That means that use must be made of the output in knitwear or in alternative fields, and this has resulted in pressure by the man-made fiber makers to have their materials fully tested and, if possible, adopted.

Orlon chunky knits have boomed into popularity; last year only a few firms used this yarn. This year some 40 firms are running Orlon bulky knit garments in their offerings. In some cases the makers are so satisfied with Orlon that they have incorporated full ranges of Orlon for the autumn.

The big chains have given Orlon its chance and, according to current reports, more Orlon knitwear is being handled in some of these mammoth concerns than wool.

Courtelle yarn is another which has been scheduled for the autumn trade on an expanding scale. Here again the use was

slow to start but is now snowballing.

Coincidental with this expanding use, there has been the expanding production already mentioned and, because of competition, lower price levels. This has helped to make man-made fibers an attractive proposition for knitters who might otherwise have delayed the step. Majority of the synthetic fibers are now approaching parity with wool, whereas previously they tended to be more costly. They have not had the advantage of price fluctuations which have assisted wool, however, and to that extent are still more costly than wool, taking into account the price variations. But against this the synthetics have been heavily publicized, so much so that the consumer is now seeking man-made fiber knits—often, it may well be, without any clear knowledge of the fibers, but conscious only that it is the "modern" thing to do.

In effect the man-made fiber manufacturers have sold their ideas to the consumer with such success that the less enthusiastic manufacturer has really no option but to experiment with the materials, make up and offer to buyers, and then accept the fiber as a regular feature, always assuming that it meets the acid test of continued value for money.

Synthetics have the particular virtue that they wash and rewash well and quickly. Much has been made of this aspect in the selling story, and it is largely the reason for the big use being made now of man-made fibers in the sporting and casual wear trades. The ease of washing has also allowed much paler shades than otherwise to be adopted; when soiling and washing was a problem, the paler shades were out; now, with washing simplified by man-made fabrics, pale shades can be used as widely as desired and are very much "in."

Another big advantage of the
(Continued on Next Page)

synthetics in the winter ranges has been their capacity to offer bulk without weight. Orlon, Courtele and Acrilan are again the fibers which are taking a lot of bulky-look trade for the winter. In this field design has moved from the basic fisherman knit stylings (except in the men's trade) to much more varied stylings and patterned effects.

Collar Effects

Hip-length bulky cardigans have bold collars; in some cases two thicknesses of collar rib are used to give contrast. These are also being introduced with some of the collar effects in the teenage trade. Fringe borders have been used on some of the more costly garments, and there is a feeling that fringes could become quite important, bordering collars, yokes, button fronts or, in the smartest sense, as decoration to the long scarves which are being incorporated in some of the newest teen-age stylings. These long scarves are fastened behind the neck and can thus be draped in all sorts of forms according to the customer's particular fancy.

Fitted sweaters shaped and styled like shirts are making a

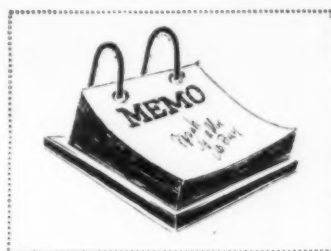
considerable impact on the younger girls. This is a repetition of the masculine knitted shirt boom, and in fact, many of the feminine shirts are really smaller size men's shirts appropriated for the female of the species. Now, to meet this interest in trim, snug-fitting shirt blouses, suitable styles are being produced with trim-collars, two or three neck buttoning, and a shirt cuff at the full-length sleeve.

Financial

White Stag Declares Dividends; Sales Up

PORTLAND, Ore. — White Stag Manufacturing Company has declared a regular quarterly dividend of 25 cents per share on Class A and Class B-1 common stock and a dividend of 7½ cents per share on four classes, B-2 through B-5, of common stock. The dividends will be payable November 15 to holders of record November 1.

The Company also declared a dividend of \$1.12½ per share of preferred stock payable December 1, 1960 to holders of record November 21.



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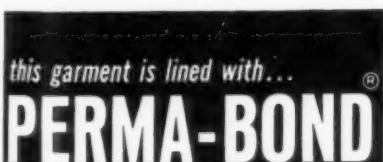
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INDUSTRY'S BOOK SHELF

THE FIELD SALES MANAGER, A manual of Practice, Edited by Albert Newgarden, Published by the American Management Association, New York, N. Y. Management Report 48, 380 pages cloth binding, \$7.50/AMA members: \$5.00

This is a complete, one-volume for anyone who manages salesmen in the field. He may be called sales manager, division sales manager, regional sales manager, district sales manager, branch sales manager, or sales supervisor. Whatever his title, he is responsible for getting results from his salesmen through planned recruitment, selection, and training; leadership and effective motivation; successful sales meetings; and improved communications.

This book takes the point of view that the field sales manager has real managerial responsibilities. It describes his duties and the opportunities they offer.

To insure a practical approach, the authors have had extensive experience as field sales managers or as staff specialists in related fields. This book will help the field sales manager organize his job and improve his management skills to get better sales results.

MODERN APPROACHES TO PRODUCTION PLANNING AND CONTROL. Edited by Robert A. Pritzker and Robert A. Gring, Published by the American Management Association, New York, N.Y. 445 pages, Cloth binding, \$9.00/AMA members: \$6.00.

In this new book, trained executives show how to organize and manage the production planning and control function. They examine in detail modern planning tools, control techniques, and mechanical and mathematical aids. A special group of three company case studies is included: Westinghouse Air Brake describes its use of punched-card equipment for progressive integration of order entry, inventory control, and production scheduling. The Dyestuff and Chemical Division of General Aniline & Film explains how it achieves an unusual degree of teamwork between produc-

tion planning and control and other organizational functions. Lukens Steel discusses application of OR in inventory control.

DATA PROCESSING TODAY. Published by the American Management Association, New York, N.Y. Management Report 46, 143 pages, \$3.75/AMA members: \$2.50.

After a decade of explosive growth in data-processing technology, a wide variety of equipment — manual, semi-automatic — is now available to meet the needs of business management. This technological abundance raises certain basic questions: What does management really want from modern methods and techniques of data processing? How can today's data-processing techniques and concepts be used to meet management's needs, now and in the future? How much will it cost?

This report answers these and other questions. It makes a realistic evaluation of data processing's role in the modern business enterprise and outlines the relation of data processing to the management information system.

Executives of leading companies describe successful data-processing applications for control of chemical processes; investigation of system deficiencies through multiple-regression analysis; use of computer simulation techniques in production and airline operations; and use of electronic computers for order handling and billing, sales planning, and production planning, scheduling, and control. As a special feature, the report includes a detailed account of a major company approach to a corporation-wide information-processing system.

THE CHANGING DIMENSIONS OF OFFICE MANAGEMENT. Published by the American Management Association, New York, N.Y. Management Report 41, 159 pages, \$3.75/AMA members: \$2.50.

The "administrative revolution" of the past ten years has increased the dimensions of the office manager's job. While new

(Continued on Next Page)

tools and techniques—data-processing equipment and systems approaches—have enhanced the effectiveness of office operations, they have also increased the demands on the office manager.

Revolutionary Changes

In this report, participants in this "administrative revolution" survey the changes that have taken place in data processing, systems planning, office services, and office design and maintenance. They discuss the impact of these changes on traditional concepts of office management and show how the office manager can plan now for future development.

OVERTIME COMPENSATION FOR EXEMPT EMPLOYEES. Published by the American Management Association, New York, N.Y. Research Study 40, 39 pages, \$2.25/AMA members: \$1.50.

Because exempt employees are not generally entitled to compensation for overtime under any provision of state or Federal law, it is up to the individual firm to decide whether or not to compensate them.

This research study is the

result of an AMA survey of 434 companies, conducted to determine in what circumstances, and to what extent, industry does voluntarily grant such compensation. It reports on current laws, plans, practices, and company viewpoints regarding overtime compensation for exempt personnel.

Companies surveyed describe their various plans for overtime payment: equal time off, the two-step plan, scales of payment, etc.. Also discussed are the types of exempt personnel paid for overtime: factory first-line supervisors, clerical first-line supervisors, salaried professionals, and middle management. Detailed exhibits and tables accompanying each section add to the usefulness of this study.

Obituary

Isidore Steinberg, 70

Isidore Steinberg, 70, father of the principals of Stonehill Knitting Machine Co., Brooklyn, died October 5 after an illness of several months. Surviving are his sons, Julius, Herbert and David; 13 grandchildren, and one great grandchild.

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Swimwear

R-M-R Dedicates Modern Plant

(Continued from Page 35)

ribbon which released a skyward flight of colorfully clustered balloons which had been floating on the pool's surface.

The full extent of the expansion reflected by the move is emphasized by the fact that the firm's former headquarters on Century Boulevard in Los Angeles will be retained on behalf of its subsidiary corporations. Of the original space used when all activities were headquartered together, only the auxiliary buildings required for certain overflow operations will be relinquished. The remaining 70,000 square feet represented by the main building will be turned over to Cortina Knits, Marina Del Mar, and Western Miss, Rose Marie Reid's fast-growing subsidiaries.

Invitational open house events took place during the week, at which time Rose Marie Reid hosted local trade associates,

employees and their families, and neighboring firms and residents.

Sportswear buyers and merchandise executives from representative stores throughout the nationwide Macy group shared an afternoon of brainstorming on the subject of swimwear merchandising this week as guests of Rose Marie Reid.

After a special showing highlights of the 1961 line, a series of statistical slides were presented which shared with the visitors the results of extensive research in the swimwear field which has been a continuing project of the firm's market research department. Under the auspices of Dr. Arthur Highman of the University of Southern California's Marketing Division, a program has been conducted which has revealed significant retail trends, in-store patterns, consumer shopping habits and preferences.

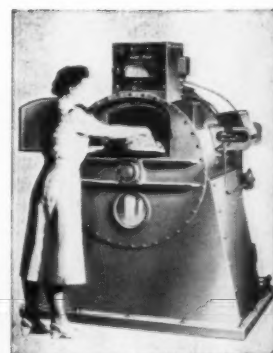
Dr. Highman documented the tremendous growth of the swimwear market over the past decade by means of a chart which illustrated gains substantially ahead of the retail industry as

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**SAVES 70% OF TIME AND LABOR
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whole. His statistics likewise revealed the relative advances of swimwear sales in department stores as compared to specialty shops and of suburban outlets as related to centrally located "parent" stores.

Discussions following the presentation of statistics were directed toward pinpointing the role of the manufacturer as well as that of the retailer in projecting future gains for the swimwear market which will measure up to past years.

Yarns And Fibers

Chemstrand Plant To Produce Nylon in Mexico

Chemstrand Overseas, S. A. officials announced the formation of a new company in conjunction with Julio Gonzalez Mora, to produce nylon filament yarns in Mexico.

The new Mexican corporation will produce nylon 66 yarns in a variety of textile and tire deniers. Hamilton Hadden, Jr., president of Chemstrand Overseas, S. A., stated.

Chemstrand Overseas, S. A. is a wholly owned subsidiary of The Chemstrand Corporation, a

major producer in the United States and international chemical fiber markets. Chemstrand also has a wholly owned subsidiary, Chemstrand Limited, in Great Britain, which manufactures Acrilan acrylic fiber, and has substantial interest in acrylic fiber producing companies in Italy and Japan.

Laboratory Reprinting Book On Textile Fibers

DEDHAM, Mass. — A limited reprinting of "Textile Fibers, Yarns, and Fabrics" by Ernest R. Kaswell, (Reinhold Publishing Corp., 1953, 552 pp.)—has been undertaken by Mr. Kaswell's company, Fabric Research Laboratories, Inc., here. The book has been out of print since early 1959.

The hard-covered reprints, which are very close to original printing quality, were prepared by FRL principally as a service to textile colleges who wanted to use the book but could not obtain copies of it. Limited additional copies, however, are available from FRL at cost, \$12 in the continental United States, \$13 (to cover handling and shipping) overseas.

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- Model MACDET** — Fabric machine for interlock, double pique, eightlock and overlaid patterns; built with 24 feeds, in 16-18 cut.

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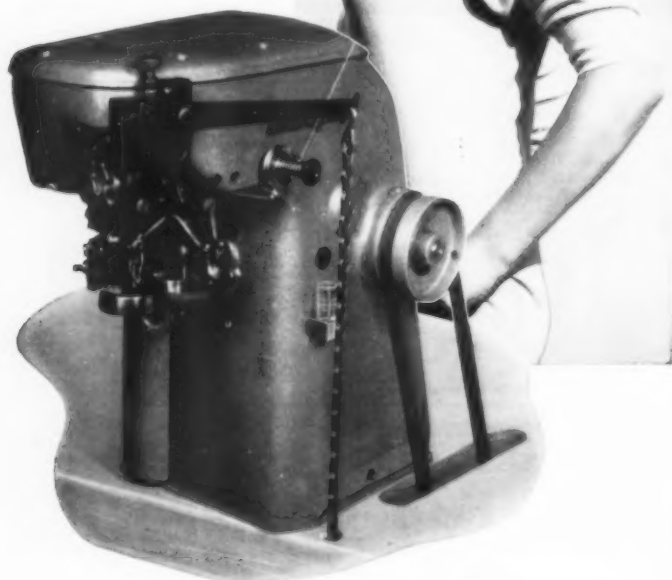
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Style Ideas From Abroad

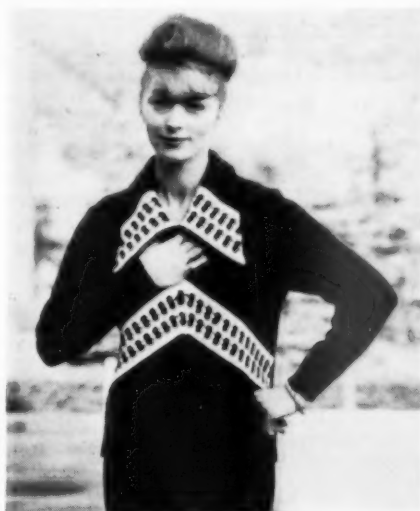
A three-piece outfit blends a knife pleated skirt with a polo shirt lighter colored trimmed with a pert bow at the neck and dark ribbing on short sleeves. A matching jacket offers mix match possibilities.



A checked jacket trimmed with a wide black collar complements a solid dark pleated skirt in another offering range of knit dress possibilities.



This two-piece knit dress tops a knife pleated skirt with a long jacket of the same color. Pockets, collar and buttons are trimmed with contrasting tones in a ribbed material.



The border design on an oversized collar echoes the jacquard stripe rising in an arch across the center of this sweater.



Border patterns march boldly across body and sleeves and reappear in diminished form at the sweater's base.



Daubs of color line up well against a white background and are further emphasized by colored stripes and border.

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A complete selection of
sew-thru and shank buttons
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Plastics, acrylics, metals and pearls.
Perfect color matching.
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Trade Shows

Knitted Dresses Set Buying Pace At West Coast Hosiery Resort Market

By P. H. MOOR

SAN FRANCISCO, Calif.—
Knit dresses and sweaters were strongly endorsed by retail buyers attending the holiday and resort market week staged here September 18-21 at the Sheraton-Palace Hotel under the sponsorship of the West Coast Salesmen's Association.

Distinguishing many of the styles for the holiday season was the artful use of the new colors. Among dresses, flat knits were the decided favorite.

With the show featuring the largest number of lines ever represented at holiday market, buyer registration was slightly above previous highs and order writing was brisk.

Fine gauge angora sweaters with dyed-to-match skirts registered at Darlene Knitwear. In colors, the lilac family, as well as lemon yellow, aqua, sleighbell green, and cinnamon spice are all important. The sweaters retail at \$15.98-\$16.98 and the skirts at \$9.98-\$17.98. Darlene representative Charles Gandelman mentioned the interest in the bateau neckline as a fashion accent and indicated that he felt there was a definite trend in that direction.

Favor Bulky

At Zado Goldenberg, Evan Goldenberg reported that buyers were favoring zephyr wool bulkies in novelty stitches. A collared cardigan in this group is made to retail at about \$13.95, sizes 36-40, with gold, beige, and black the leading colors.

Ben Rothenberg of Redwood City Knitting Mills stated that business was "not too bad." The firm produces jacket sweaters in sizes 36-46, \$10.95-\$12.95 retail. Pastels, he indicated, are the most important hues.

Another house specializing in jacket sweaters, Bams Knits, secured extra sales through the introduction of new colors. Dave Solomon, sales manager, reported that, whereas in the past the firm had offered about eight colors, it was now presenting some 14 shades and this was provoking a good deal of buyer interest. Business, he said, was "very good; ahead of last year by about 15 percent."

New colors at Bams which are being interpreted in wool and in Orlon are gold, teakwood brown, bone beige, willow green, and purple. The latter is a deeper shade than the lilac which has been in the line for many seasons. The firm makes sweaters in the \$9.00-\$17.00 retail range, sizes 36-46.

A particularly popular Bams style highlights a mock cable in a three-ply Orlon yarn. It is used in two collared cardigans, one a waistline bulky at \$11.95, the other a long line style at \$12.95. Gold, purple, green, beige, and white lead the color parade.

Market Good

Lionel Traube, Jr. representing Snyder Brothers Knitting Mills indicated that the market was "pretty good." A two-piece dress with a straight skirt and boxy Chanel jacket was in demand at \$69.95 retail. It featured horizontal ribbon trim, a fairly wide collar, and three-quarter set-in sleeves. Black is the leading shade followed by purple, lilac, and royal.

From Lindner Brothers, Mr. Traube said that there was quite a bit of interest in a new type of bulky which the firm is producing on a Jacquard machine. Selling at \$11.95 retail, sizes 36-46, white, black, redwood, and Tahoe blue are the most popular colors. A bulky collared cardigan in a rib stitch was also moving well at \$10.95 retail, sizes 36-46.

Retailers also endorsed knit jackets and tops by Edith made of a pile Acrilan. A popular style in this fiber is a straight line overblouse with a bateau neck and full-length set-in sleeves. The same item is offered with embroidery trim on the pockets or with a black inset down the front.

Mr. Baker was "very gratified" at the amount of business he had written at the market. The firm, he reported, is continuing to find favor for its knit dresses which were added to the line a few months ago. A wool and cotton design with a round open neckline, elbow length sleeves, an elasticized waist, and

(Continued on Next Page)

Pace Market

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straight skirt was in demand at \$19.95 retail. A cotton tweed dress highlighting a cross-over bateau neckline and three-quarter sleeves was another leader at \$17.95 with sand-dust and blue both popular colors.

Smart knit dresses were important at Nardis of Dallas where Milt Bronson was the salesman. A two-piece wool dress with a fully lined straight skirt provoked good response at \$29.95 retail. Subtle heather blends in brown and sand are the two color offerings. Fashion accents include a convertible neckline which can be buttoned high or worn open, a wide ribbed waist, and three quarter dolman sleeves.

Cotton knit is given a very dressy, festive look by Nardis of Dallas in a cotton lace style. Completely lined, the dress is a sleeveless sheath with a round neck, a low V back and a satin belt. A slim line town dress with a high round neck, dolman sleeves and a back zipper give an entirely different personality to the same cotton lace knit fabric. In both styles, beige and black are the leading colors.

Kimberly Knitwear's representation reported phenomenal success with the line. Bill Scatena stated that his business was 50 to 60 percent ahead of last year. At the holiday market, the firm showed the same styles as in the fall show but was offering them in bright new colors. The important shades, Mr. Scatena indicated, are hyacinth, tropicana red, raspberry ice, mist gold, haze green, and jade green. There was, he said, more action at the market on navy blue for early spring than ever before. Two three-piece outfits featuring Chanel jackets and tapestry print blouses were important. Navy and green is a recurring color combination.

Mr. Scatena noted that buyers seemed to prefer the three-piece over the two-piece dress. Where his firm specializes in flat knits, it was showing a few textured styles. One of the most interesting of these is in a hand crochet yarn of 30 percent rayon and 70 percent wool—a one-piece collared dress with three-quarter sleeves.

At Butte-Knits, a division of Jonathan Logan, Inc., the three leading styles included a portrait necked, double stitched all wool sheath at \$39.98 retail; a two-

piece suit with five button trim in a pyramid design and a silk scarf filling in a plunging V neckline (\$45.00); and a scoop necked sheath with a banded waistline. In the last two, beige, light grey, black, and lavender are the most commonly endorsed shades. Harold Zwilling was the representative.

Attendance Is Off But Buying Is On At Holiday Show

SYRACUSE, N. Y.—Buying was steady at the holiday showing of the Empire State Juvenile Mart, Inc. despite a ten percent drop in attendance from last year.

Plum was a favorite in knits followed by gold and olive.

Two of the largest re-order items in the boys' collection of Sargon Knitwear, presented by Moe Drosch, were a roll-collared button down front cardigan and a high V-neck cable-stitch pullover in Orlon, available in full range from size 3 to Young University, retailing from \$5.98 to \$9.98. Styling was said to be the important factor here, rather than color. Another popular number called Johnny Zip was a front zippered cardigan with two-button turtle neck in solid colors edged with black, 3 to 20, \$5.98 to \$8.98.

An Acrilan solid color knit shirt for boys, a \$2.98 retailer, was going very well for Donald T. Cohen, showing the Rob Roy line. Leotards and two-piece boucle and Orlon sets for infants and toddlers by Sternberg Knitting Co. was also moving.

Ernest G. Jessel of Janie Originals said lilac, butterball, robin blue and spray green were the most wanted colors in girls' wear. Most interest was in a long-sleeved solid pastel Orlon pullover with Nordic or cross-over neck treatment at \$3.98, and a similar but heavier number with wide vertical stripes at \$5.98, in 7-14 and subteen sizes. Also attracting attention was a two-piece set with slacks of leopard corduroy and the top cotton knit with leopard cowl neckline, retailing at \$4.98 for 3-6X and \$5.98 for 7-14.

The "Scardigan" for boys, \$2 in sizes up to 8 and \$3 for 8-16, was a best seller in the Cisco, Inc., line.

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- 2—Jacquard TA, 28", 9 cut, 6 feed, with stripers
- 2—Ordnance Gauge; 1—22", 1—24", OT; 8 feed, 10 cut, 3 color stripers
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- 40—Metal cans with rubber wheels, 26" x 18" x 16¾"
- 1—Dubied, 60", 12 cut BARB, practically new
- 2—Jacquard TJI, 30", 14¼ cut, 12 feed with 4 color stripers

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- 2—30", 8 cut TA 6 feed, 2 color yarn changer machines
- 2—30", 9 cut TA 6 feed, 2 color yarn changer machines
- 1—16 cut TAI, 30", 12 feed complete with stripers
- 3—13 cut TAI, 12 feed, 30" jog system machine
- 3—Universal Supramat SF, 10, 12, 14 cut
- 2—7 cut, 74" double jack Queens machines, selective racks for cables
- 2—7 cut, 88" double jack Queens machines, selective racks for cables
- 1—10 cut double head Lamb border machine
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- 1—Jacquard GW, 28", 10 cut, 24 feed complete with wheels
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in North Carolina for sale.

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- 2—Phila. Jacq. TJ, 7 & 8 cut, 28", 6 feed, 4 col. strip.
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- 1—O.G., 32", 36 feed, 8 cut, multi-feed jersey and 1 x 1 rib
- 2—Phila. Jacq. LA 30", 12 feed, 7 & 10 cut, 3 col. str.
- 2—Leighton transfers, 6½ & 10 cut, 32" & 34", 9 feed, 4 col. str.
- 0—Phila. Jacq. TA, 11" to 20", 4 feed, 6 to 12 cut
- 1—Phila. Jacq. MLW, 28", 11 cut, 24 feed, automats & wheels
- 4—Wildman PB2, 15", 17", 18", 28", 8 and 10 cut
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LH, 6 or 7 cut Jacquard knitting machines.
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stripers on all 12 feeds
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- 1—Brinton RMP, 24", 64 feed, 20 cut
- 1—Supreme MJ, 20", 64 feed, 20 cut
- 1—Brinton PR-19, 24", 16 feed, 10 cut

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Give serial number and price in first letter.
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600 lbs.—3 run, autumn gold, 80% wool, 20% nylon, cones
900 lbs.—3 run, olive green, 100% wool, cones
3500 lbs.—2¼ run, lt beige, 75% wool, 25% Orion, cones
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an outstanding opportunity for man or woman with good working knowledge of all types of knitting processes—cotton, wools, synthetics, blends. Give full details of background experience, references and salary requirements in first letter. Position will require residence in Portland, Oregon. Write Mr. Kaplan.

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on 4 gauge flat power and hand machines. Presently available for 100-200 dozen weekly.

BOX 421**CONTRACT WORK WANTED**

on 4 cut latest model Universal.

Knitting only. Good workmanship.

BOX 425**WANTED**

Knitting only on Raschel machines. We are experienced on Raschel knitting for sweaters.

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on 4 and 5 cut flat machines.

BOX 420F**BUSINESS OPPORTUNITIES****PARTNER WANTED**

Plant, consisting of fine gauge circular machines, is interested in an active partner with capital for bulky machines.

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Profitable business.

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Partnership can be active or inactive. The plant is fully busy, has a good reputation, excellent, prompt paying customers, with good future business anticipated. Expansion possible if wanted. No technical knowledge needed, the plant is well managed with steady, young management. Located in Southern New England.

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Styles and patterns submitted will be confirmed to Canadian market. All replies shall be treated confidentially.

BOX 410D**REPRESENTATIVES WANTED, LINES WANTED****LEADING SELLING AGENCY**

Well-known, nationally for over 30 years—open to represent reliable mill — sales volume over \$1,000,000 — manufacturing ladies' sweaters.

BOX 410L**SELLING AGENT WANTED**

to represent leading manufacturer on popular priced ladies' sweaters. Must be well established for volume selling.

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BOX 420H**CLOSEOUTS****MEN'S AND WOMEN'S QUALITY SWEATERS
CLOSEOUTS WANTED FOR CASH**

Our discount store sells to isolated areas enabling us to take top cash prices and prevent conflict with Main Street stores. No quantities too small or too large. Upon receipt of your postcard letting us know what you have to offer, we will be pleased to visit you with cash.

BOX 420B

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CHARMKNIT CORP., 82 Franklin St., N.Y.C. WA 5-6828**CLOSEOUTS WANTED**

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Market 2-2473**Pilgrim 8-4035**

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BOX 420L**SERVICES, SUPPLIES FOR SALE****SAVE MONEY ON POLYETHYLENE BAGS**9½ x 13—G. 001 @ \$5.00 per M—G. 00075 @ \$4.25 per M
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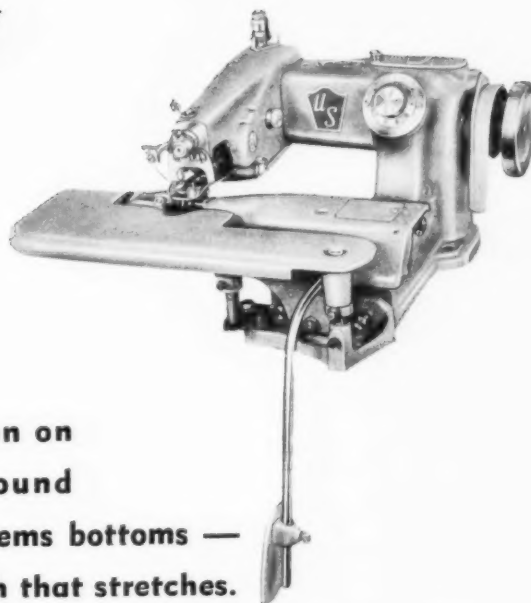
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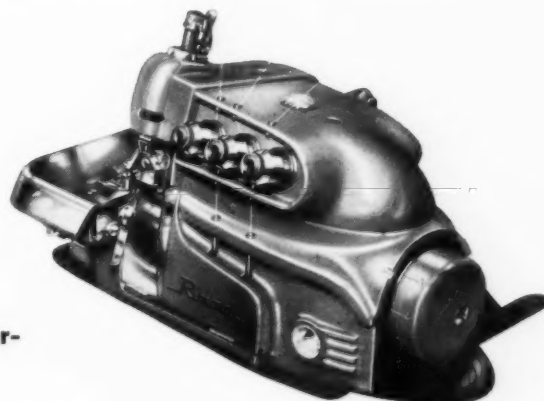
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